

FIG. 1

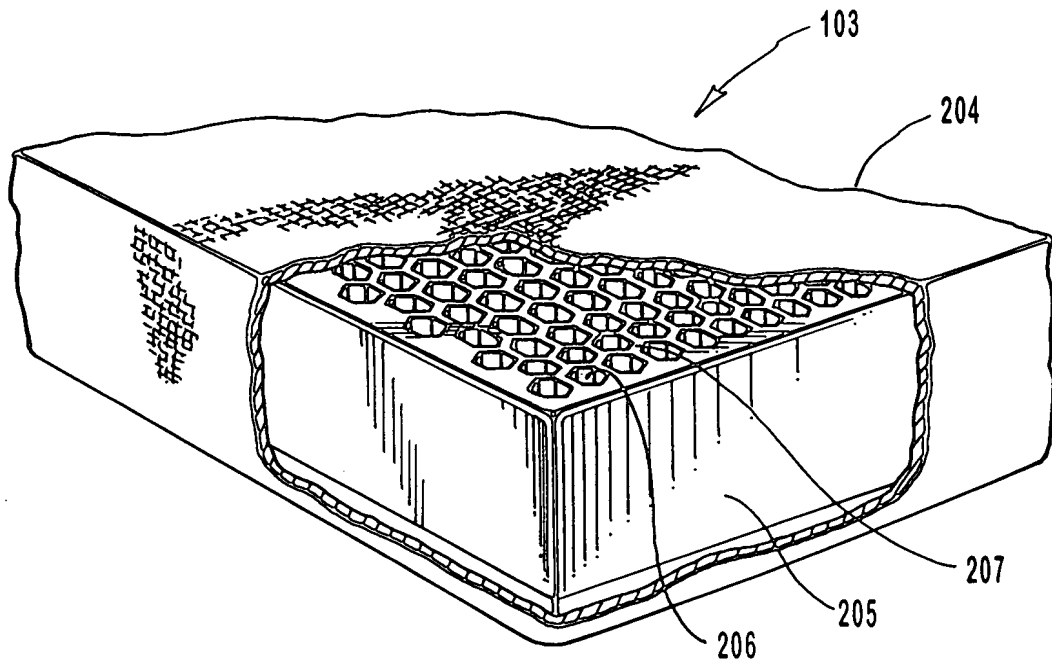
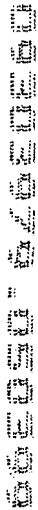
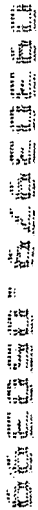


FIG. 2



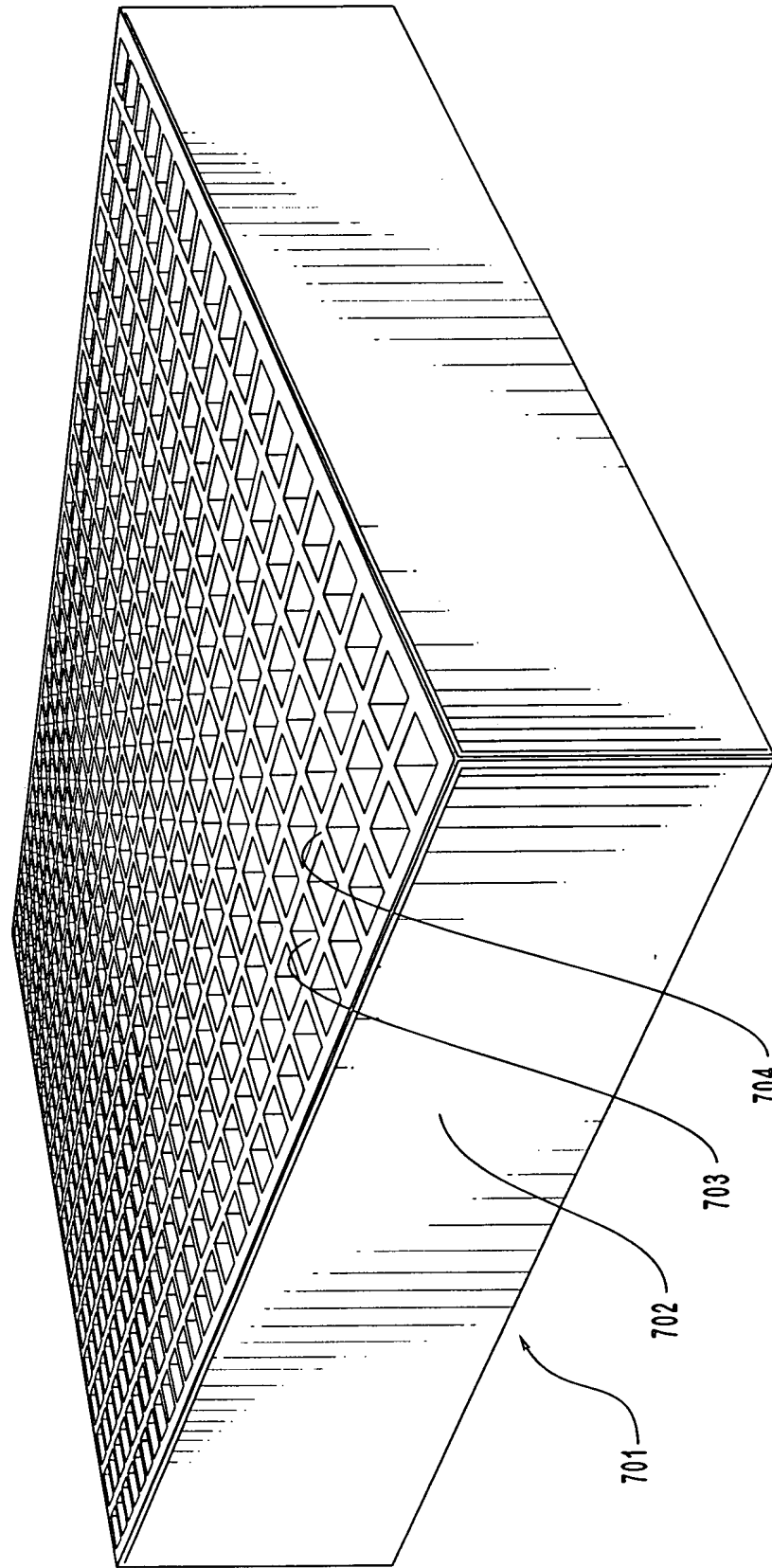


FIG. 7

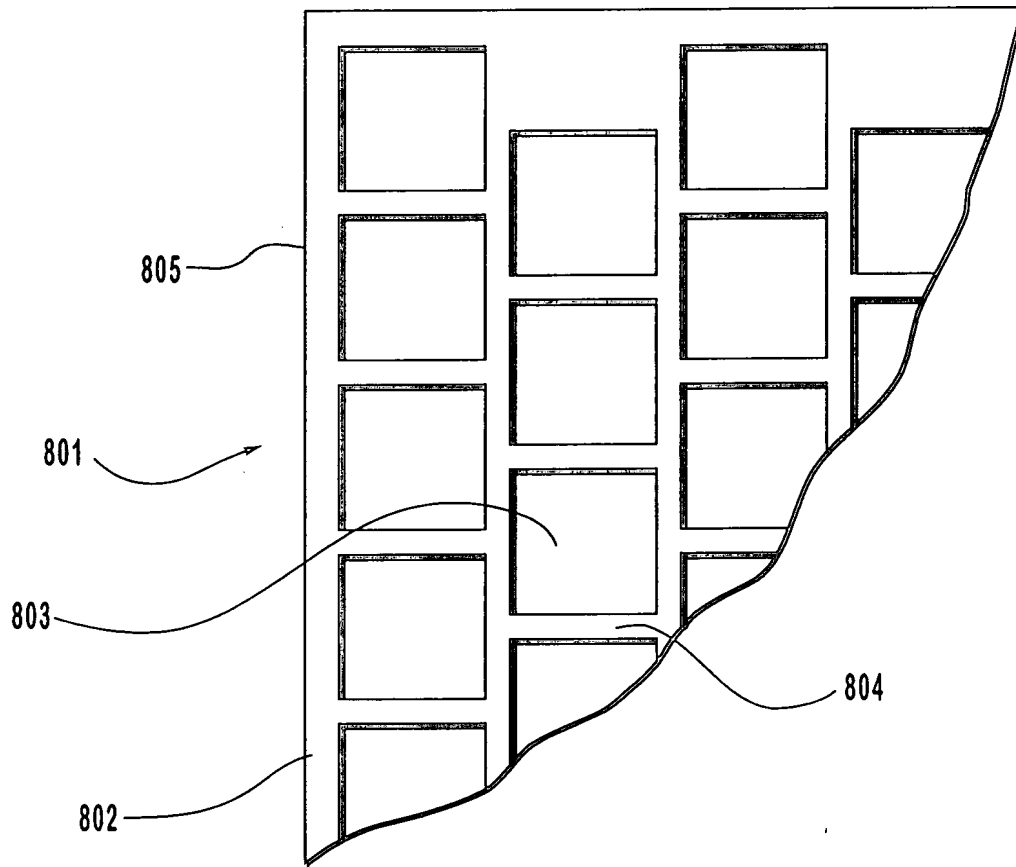


FIG. 8

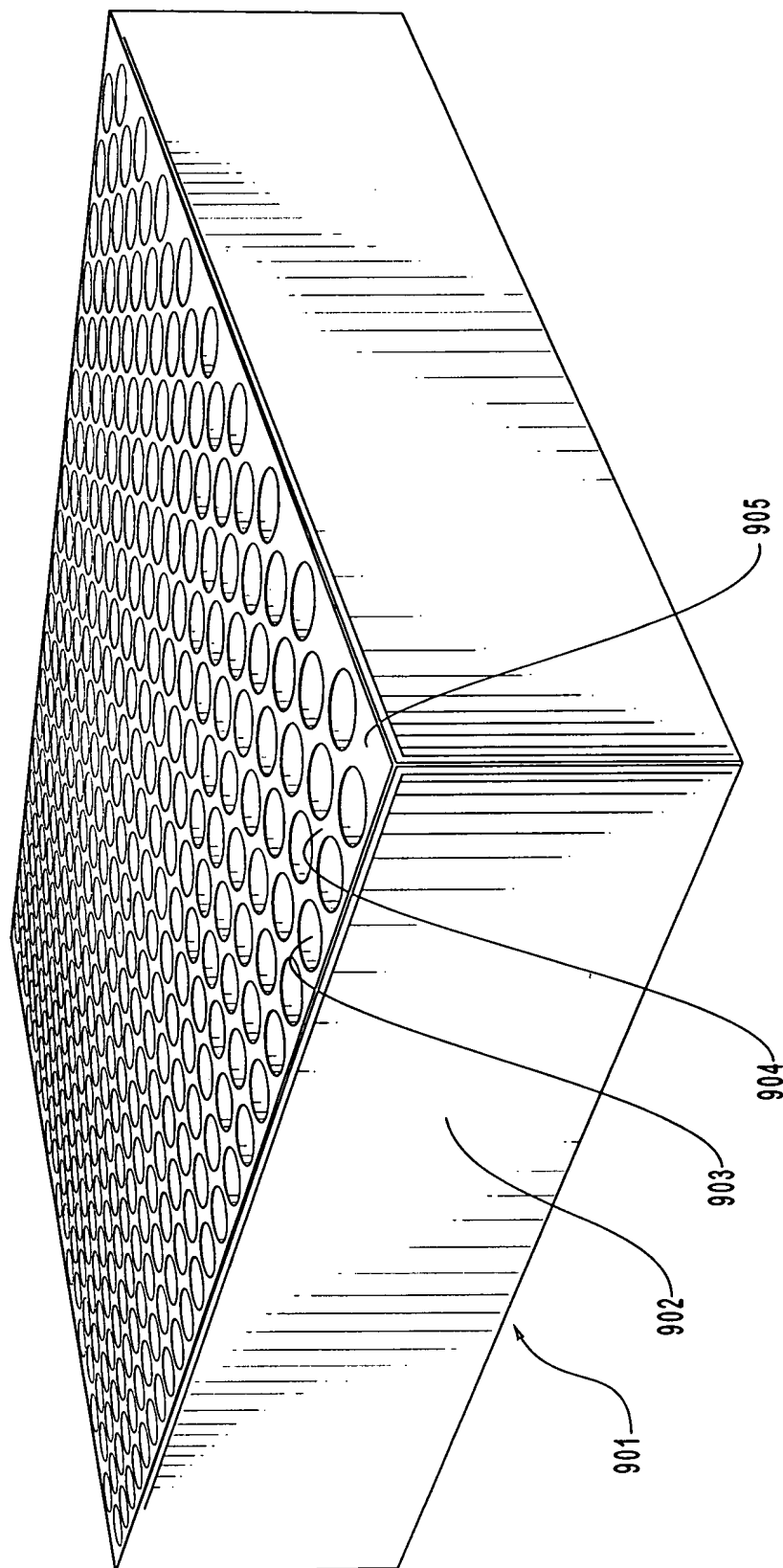
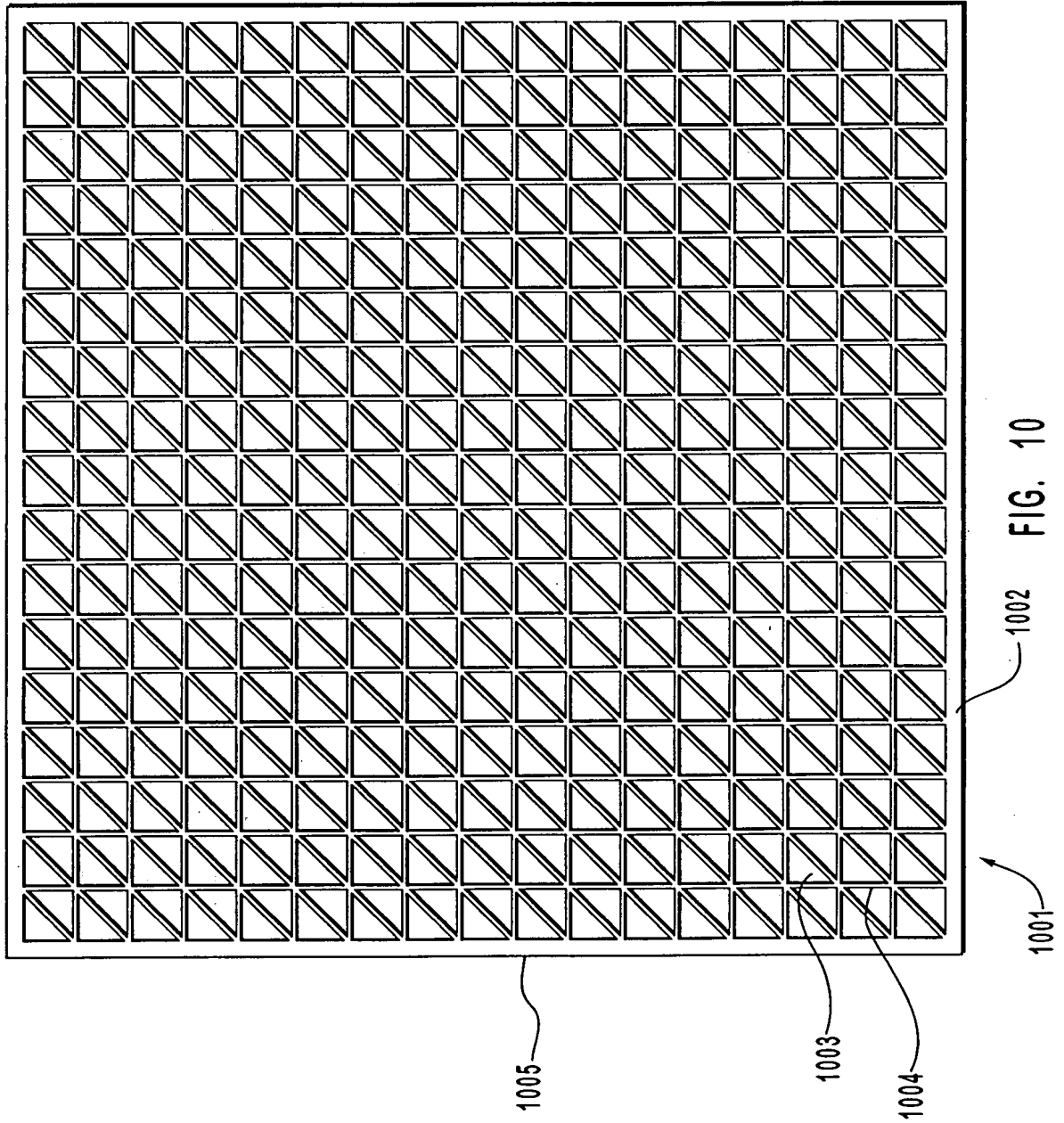
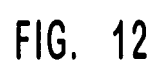
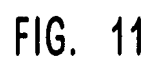


FIG. 9

66E030" 620E0E00





682050" 62620260

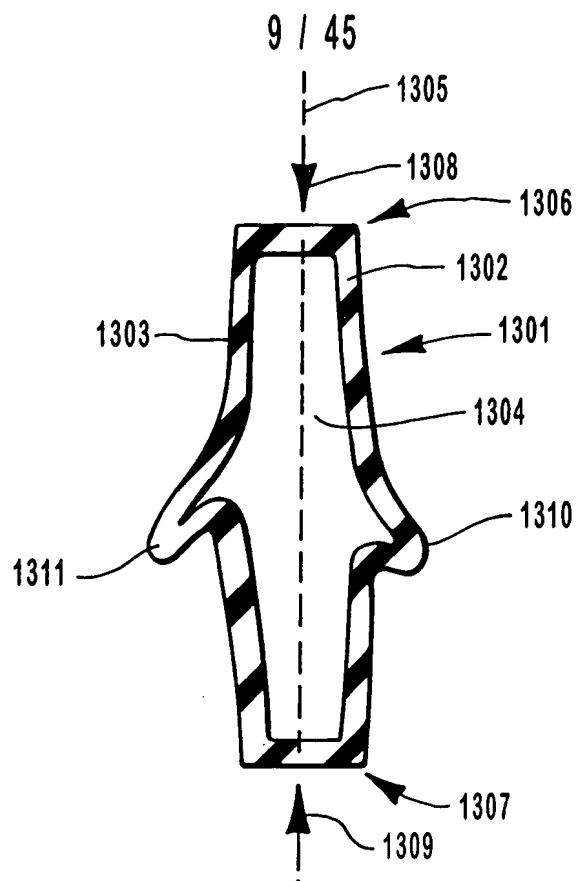


FIG. 13

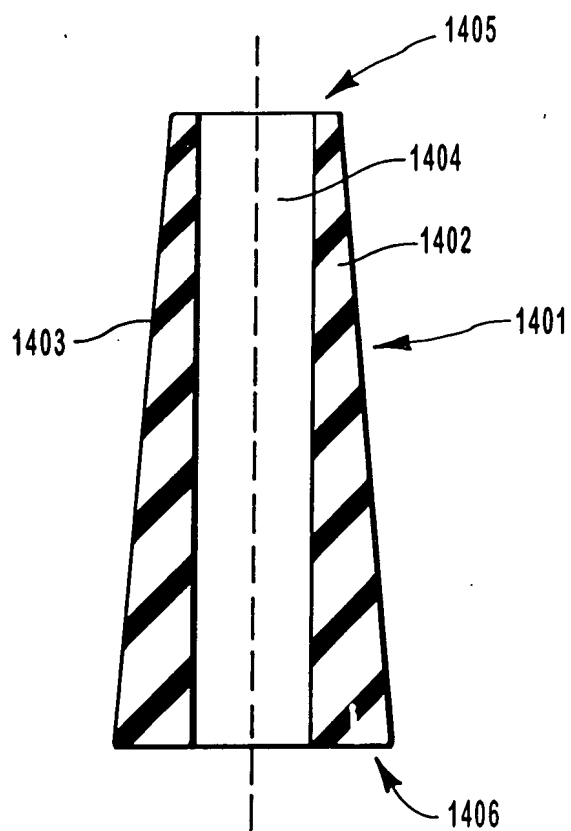


FIG. 14

10 / 45

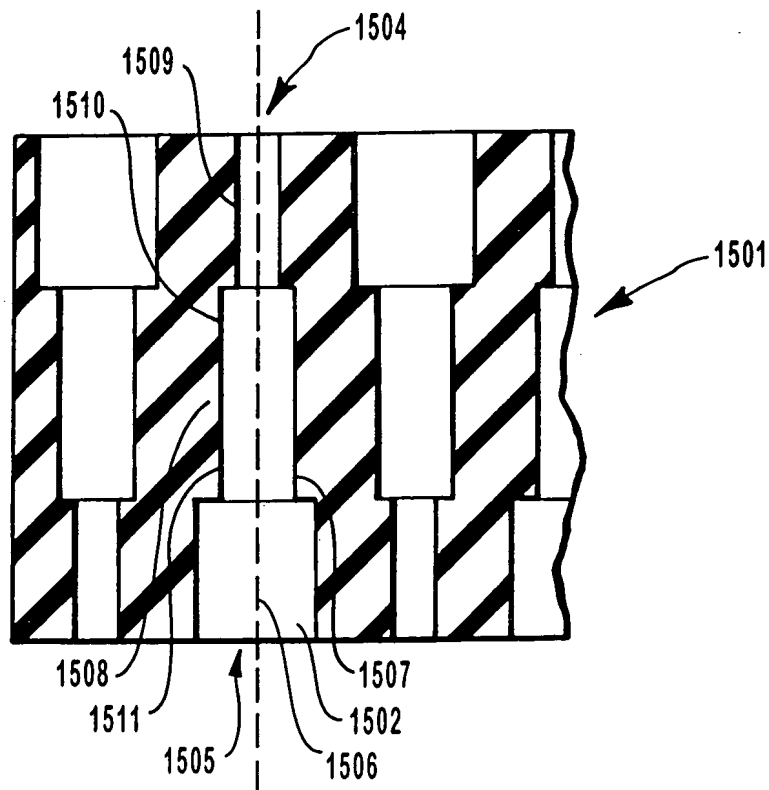


FIG. 15

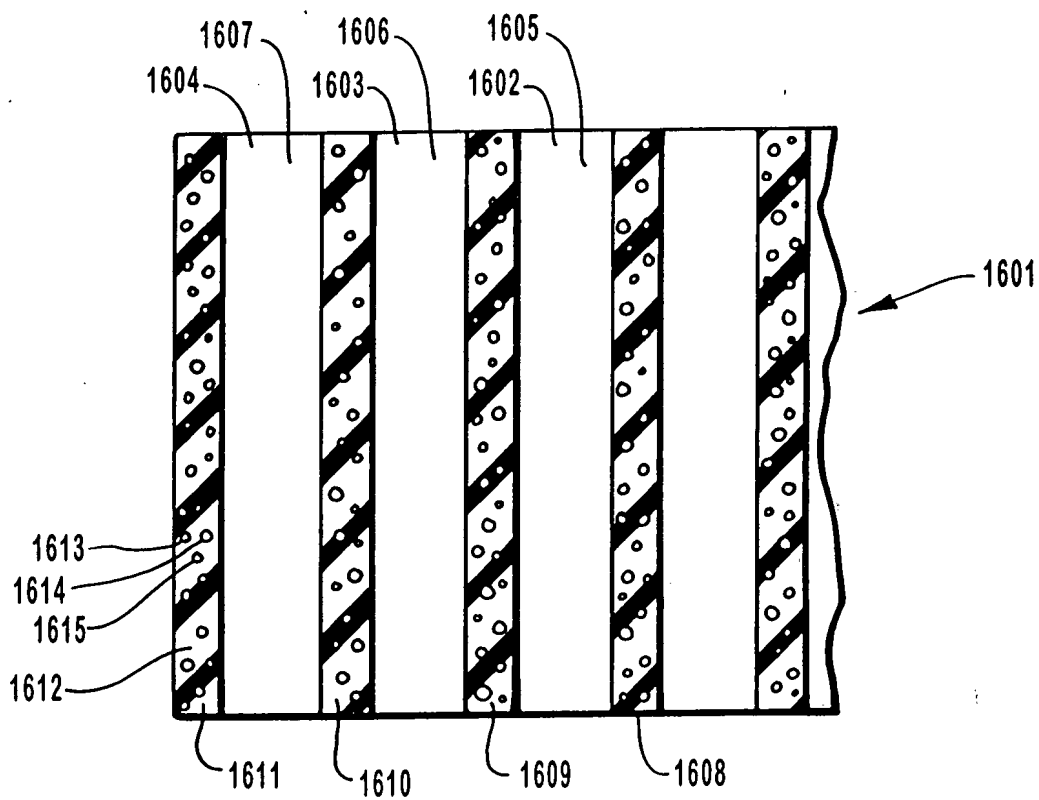


FIG. 16

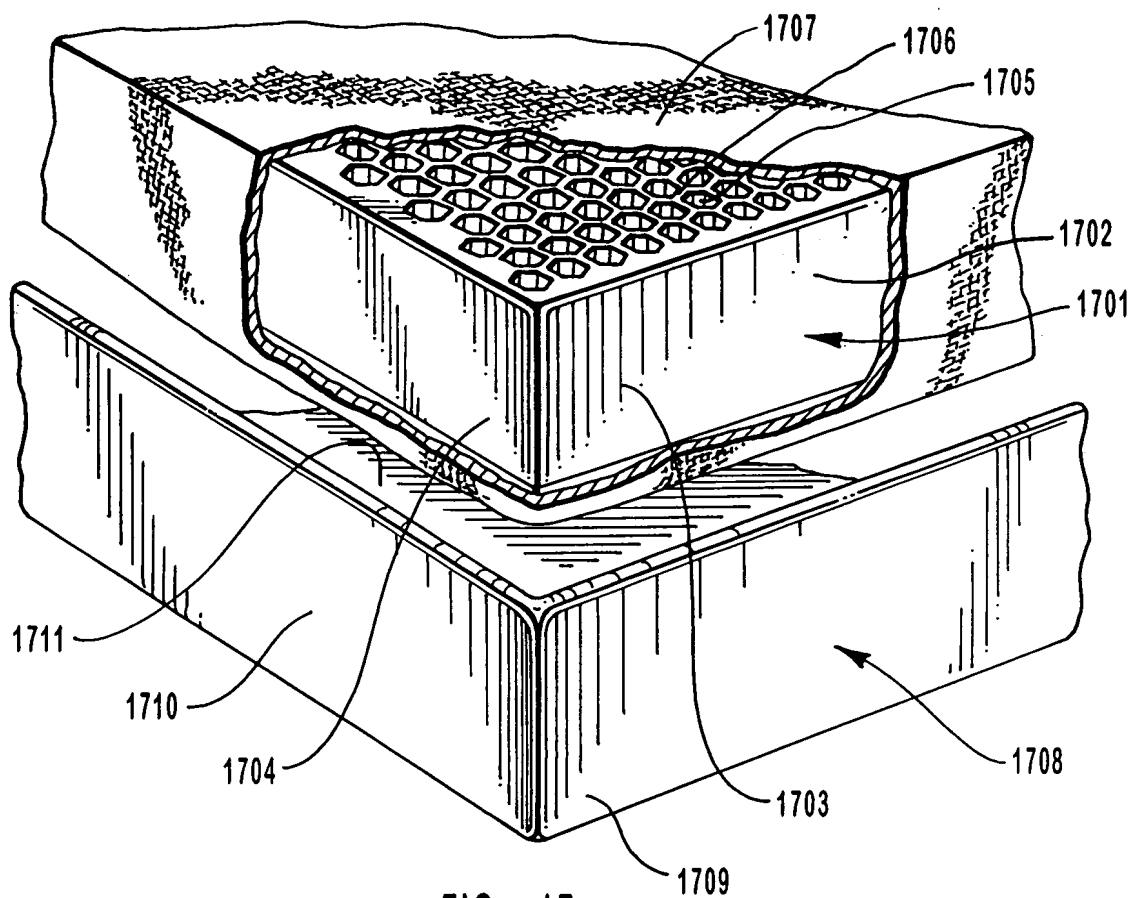
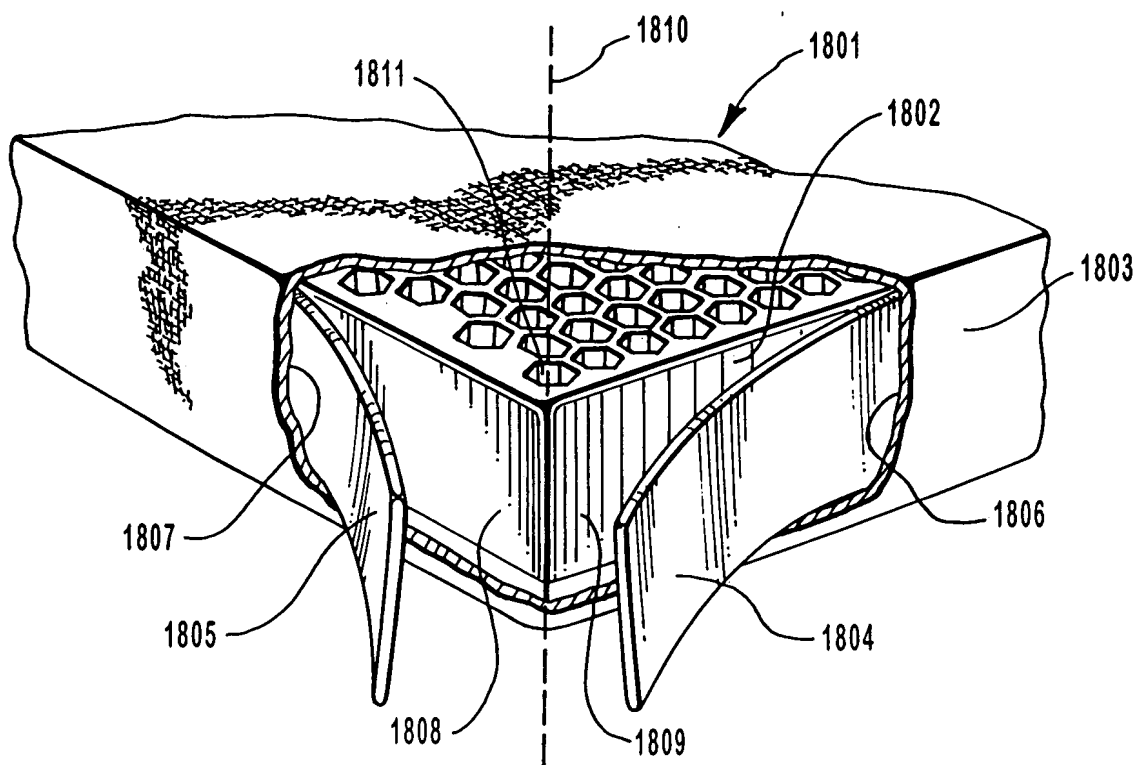


FIG. 17



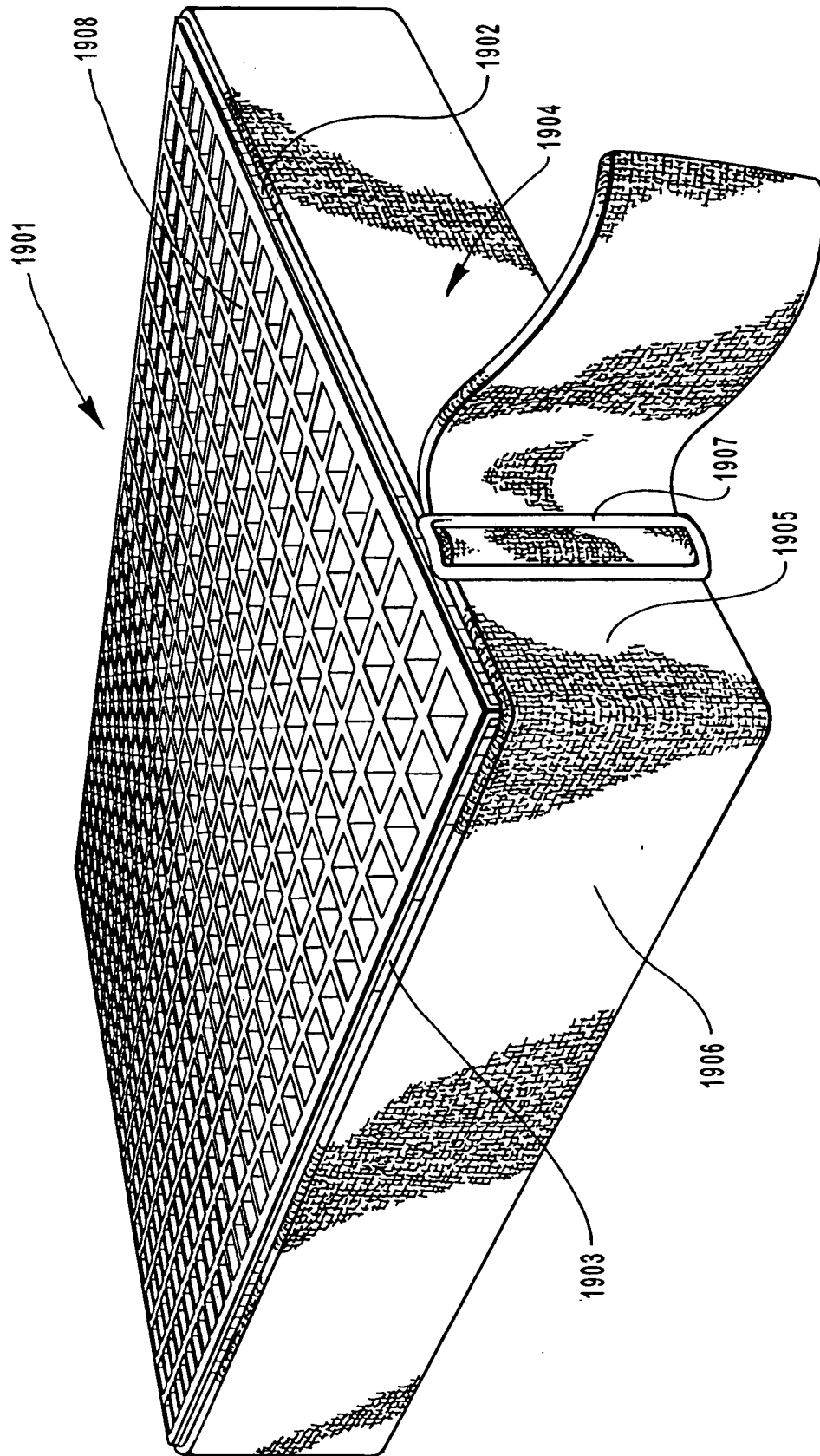


FIG. 19

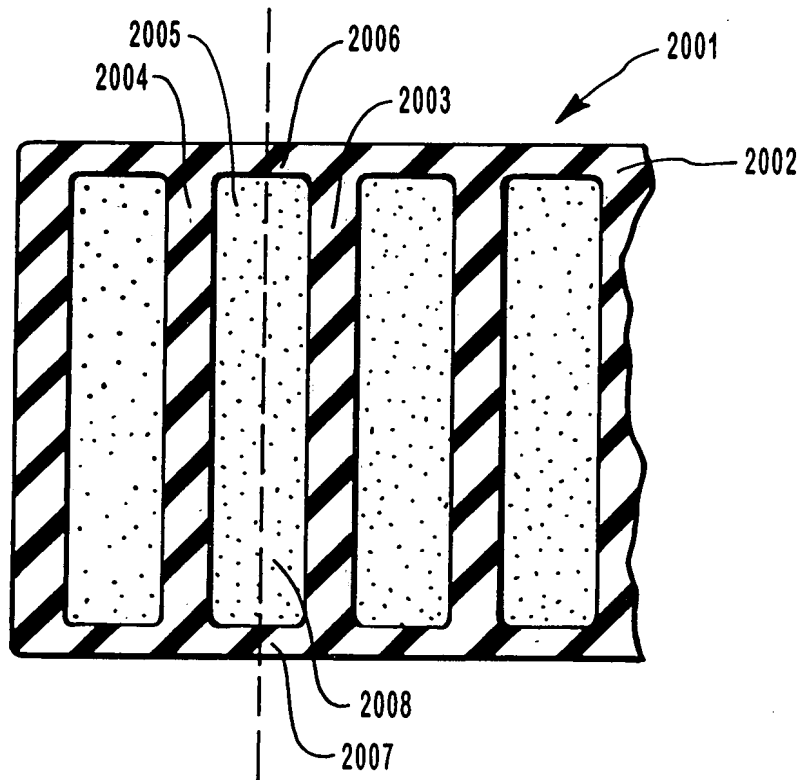


FIG. 20

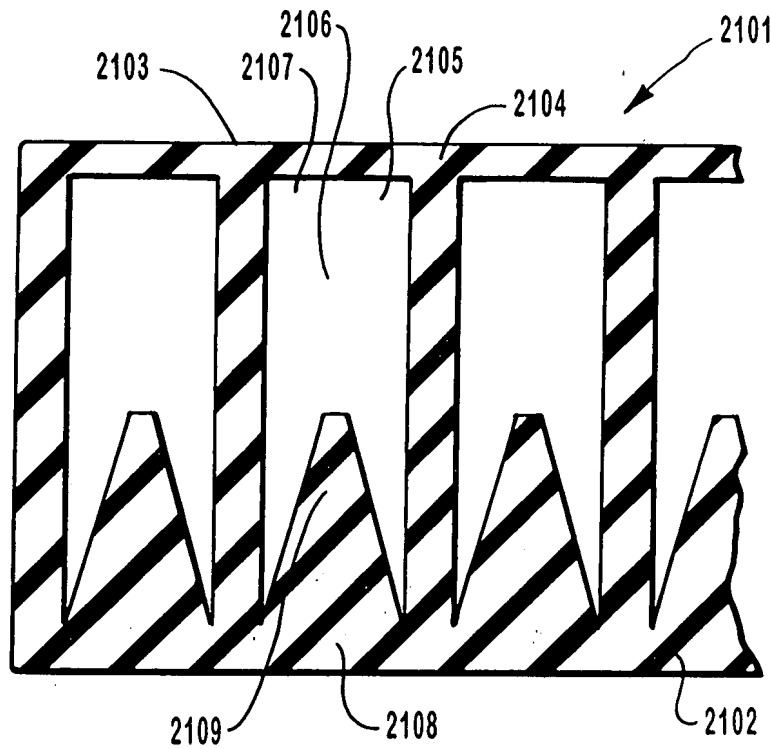


FIG. 21

662050 6460260

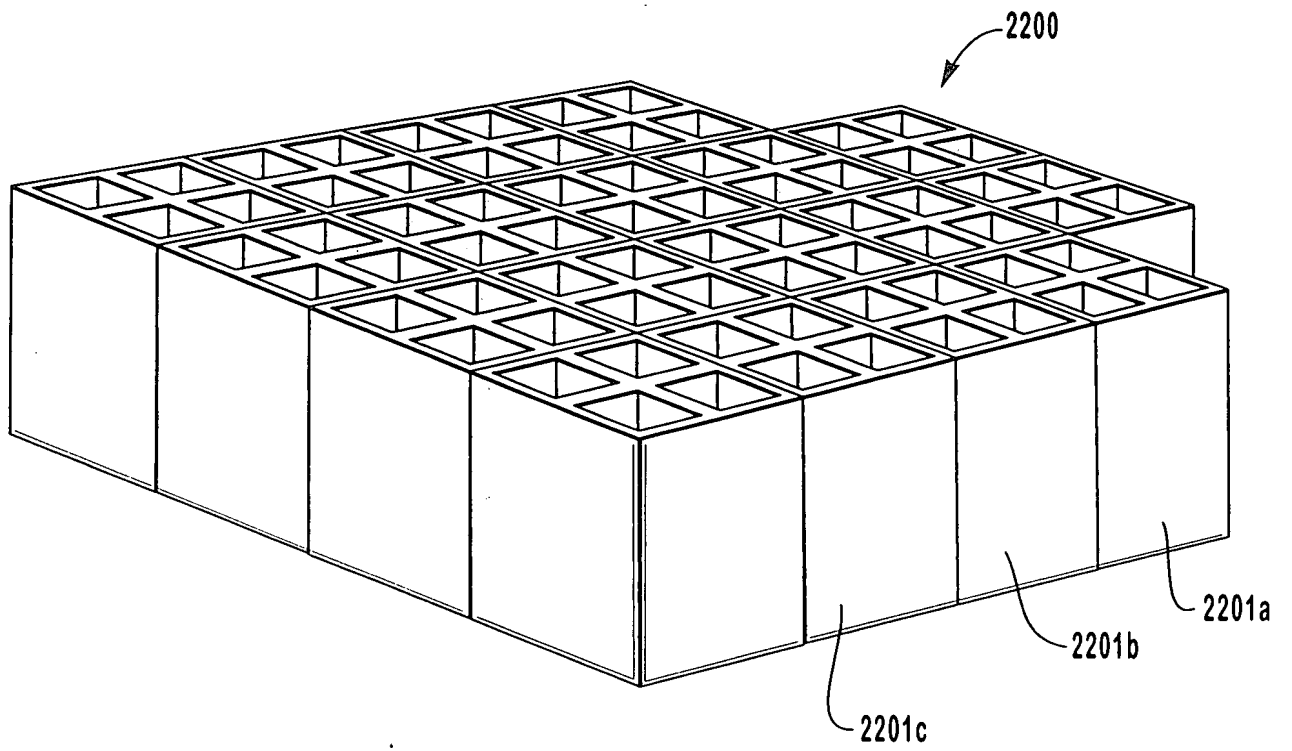


FIG. 22

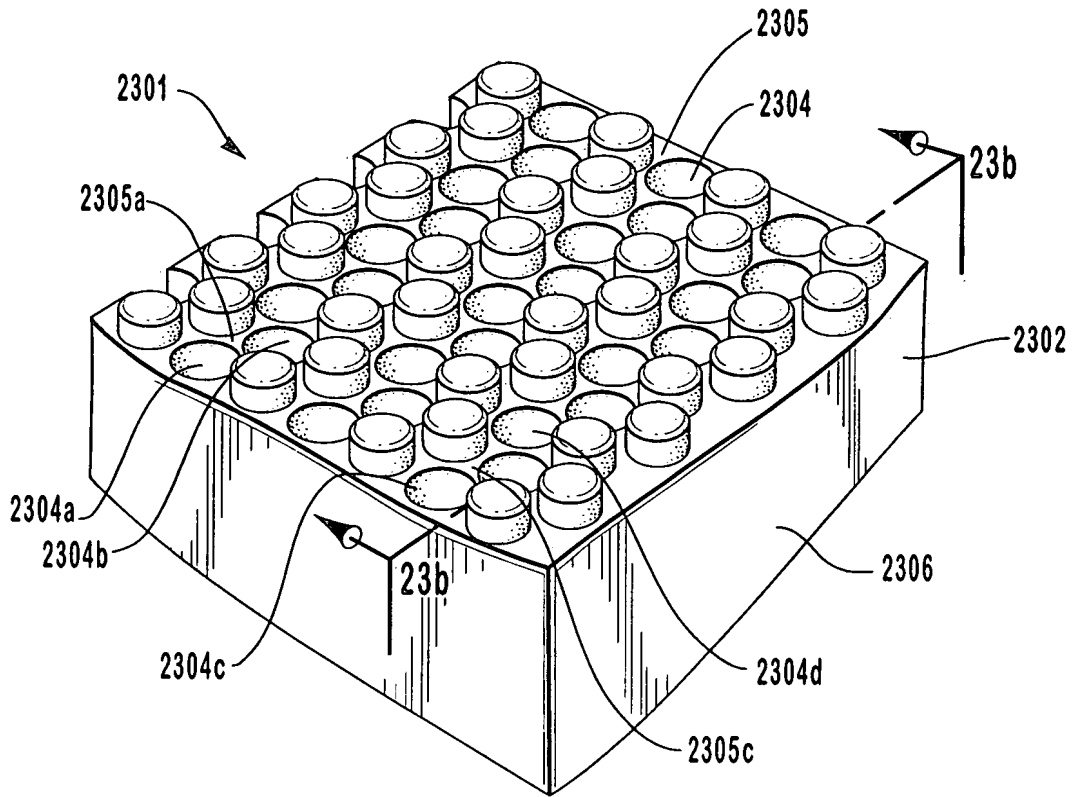


FIG. 23a

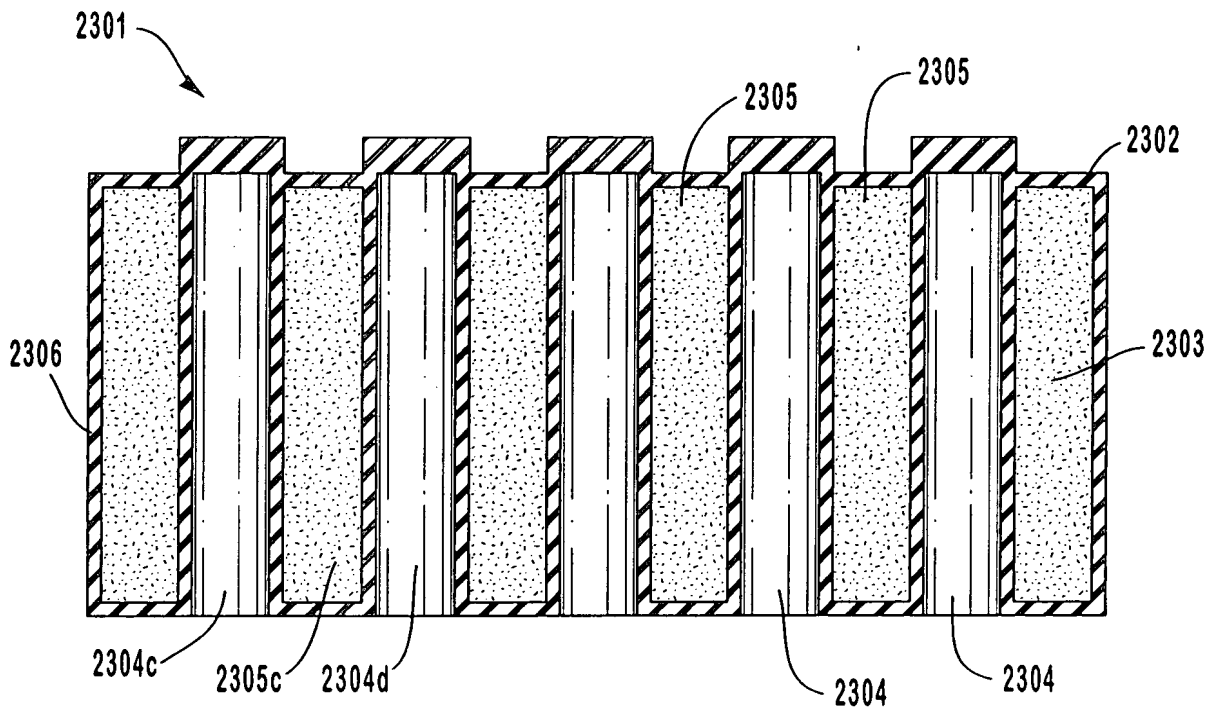


FIG. 23b

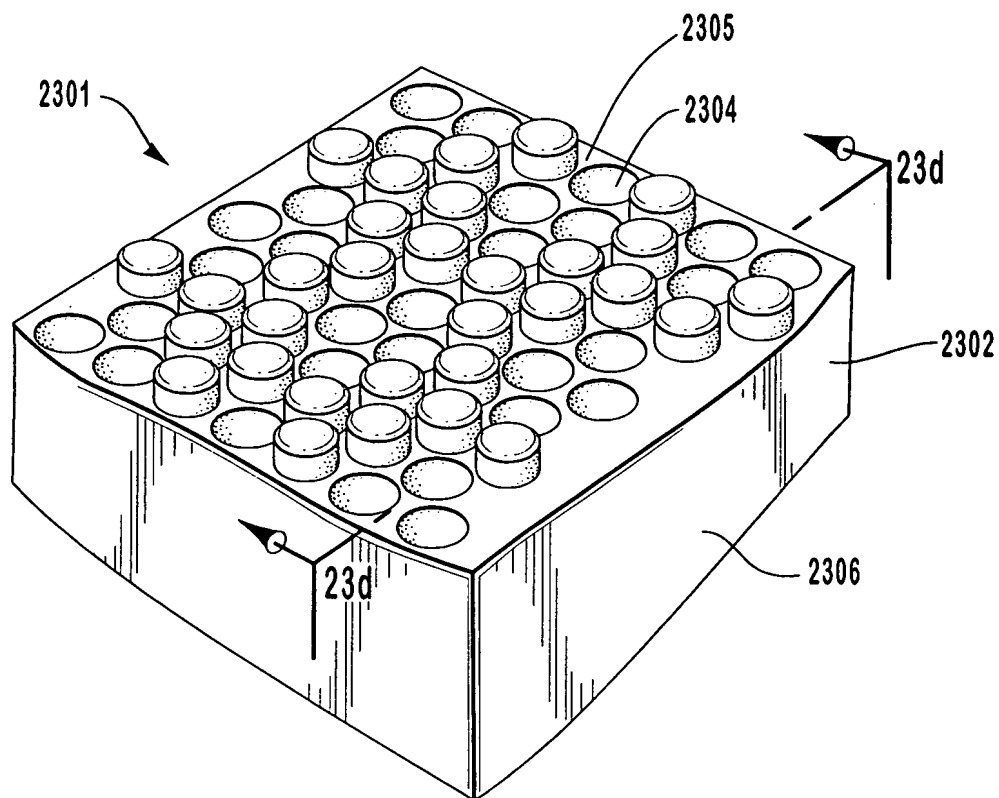


FIG. 23c

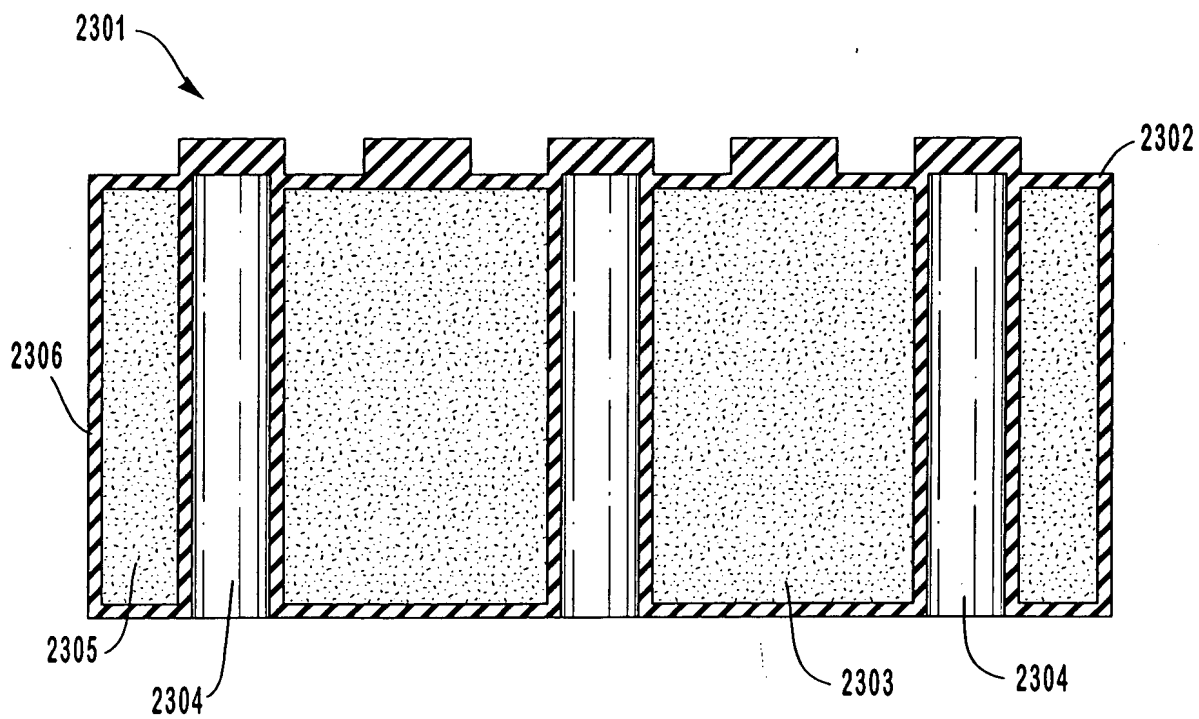


FIG. 23d

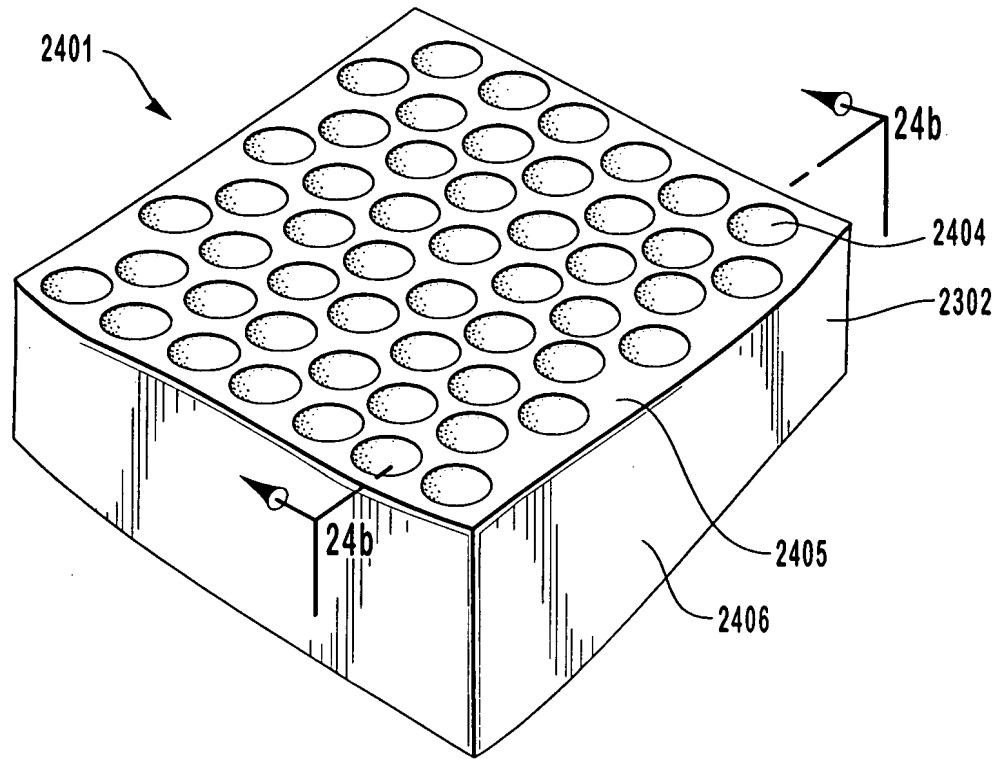


FIG. 24a

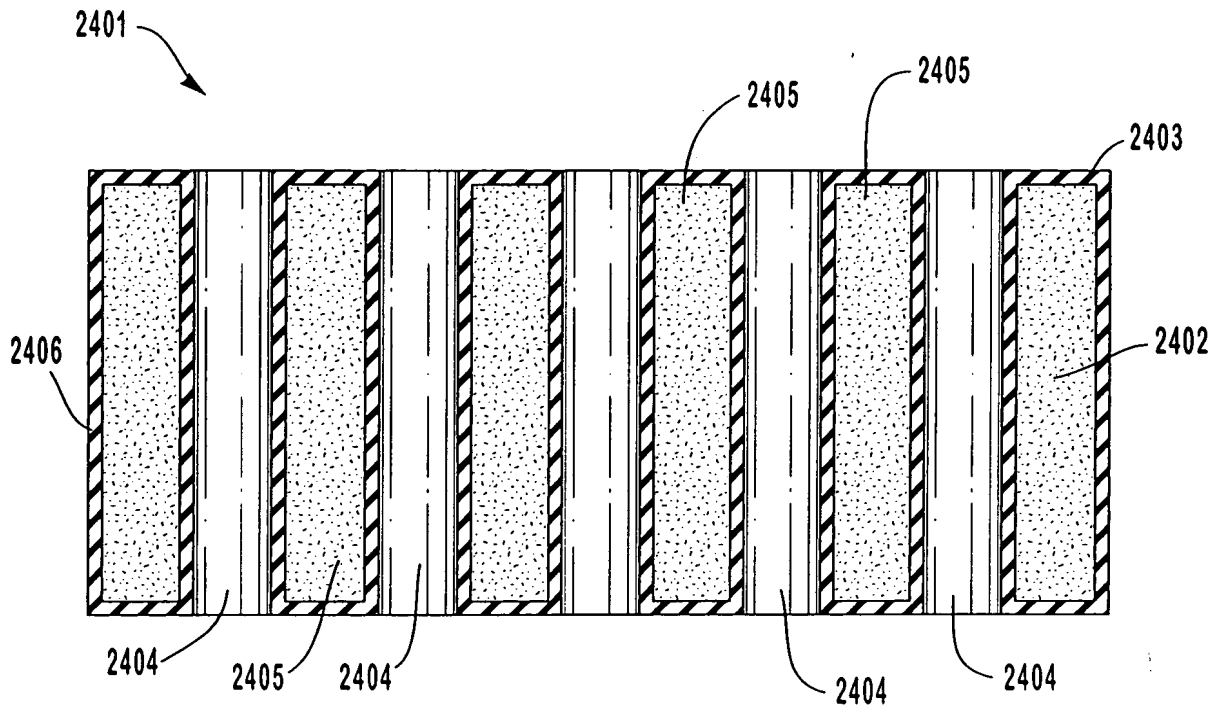


FIG. 24b

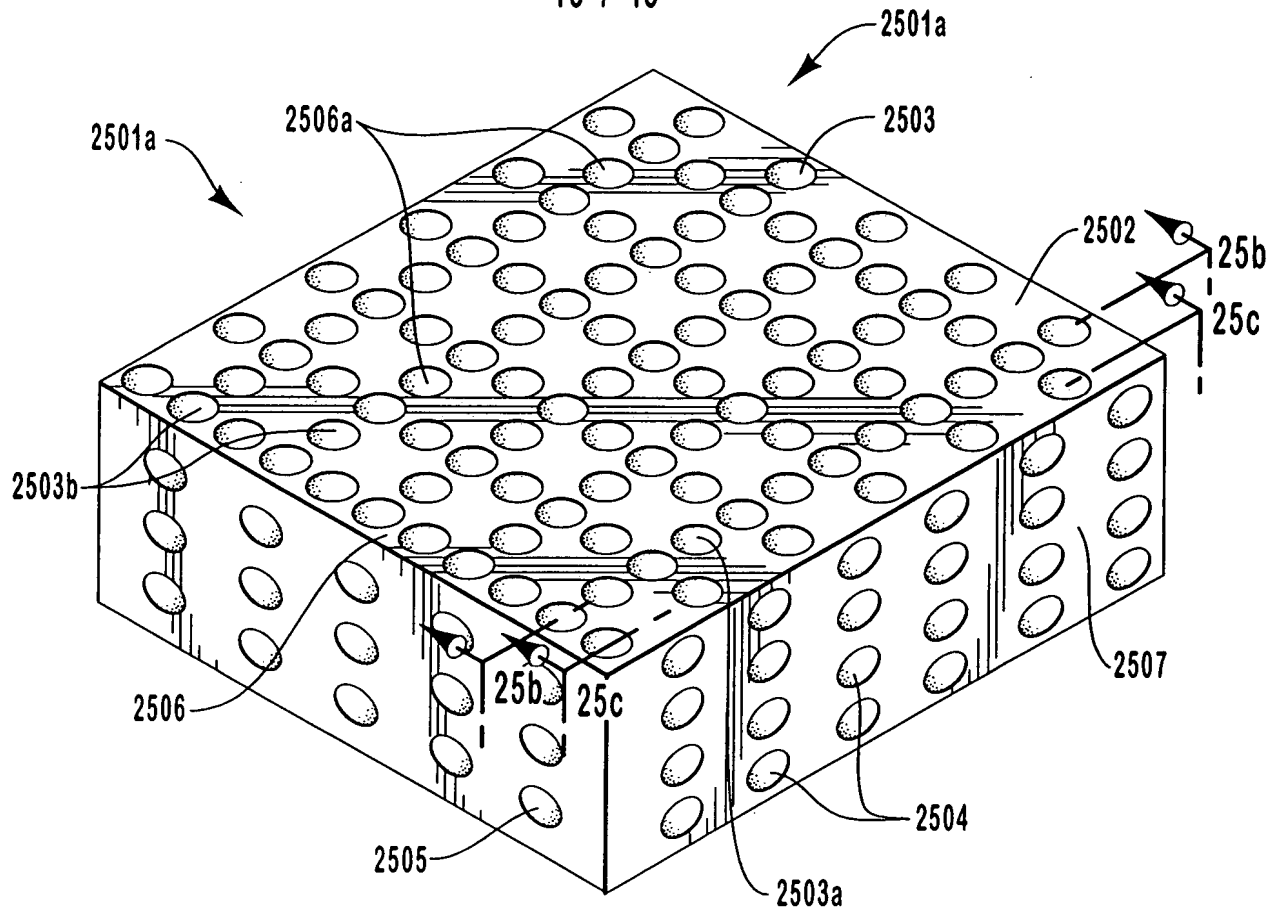


FIG. 25a

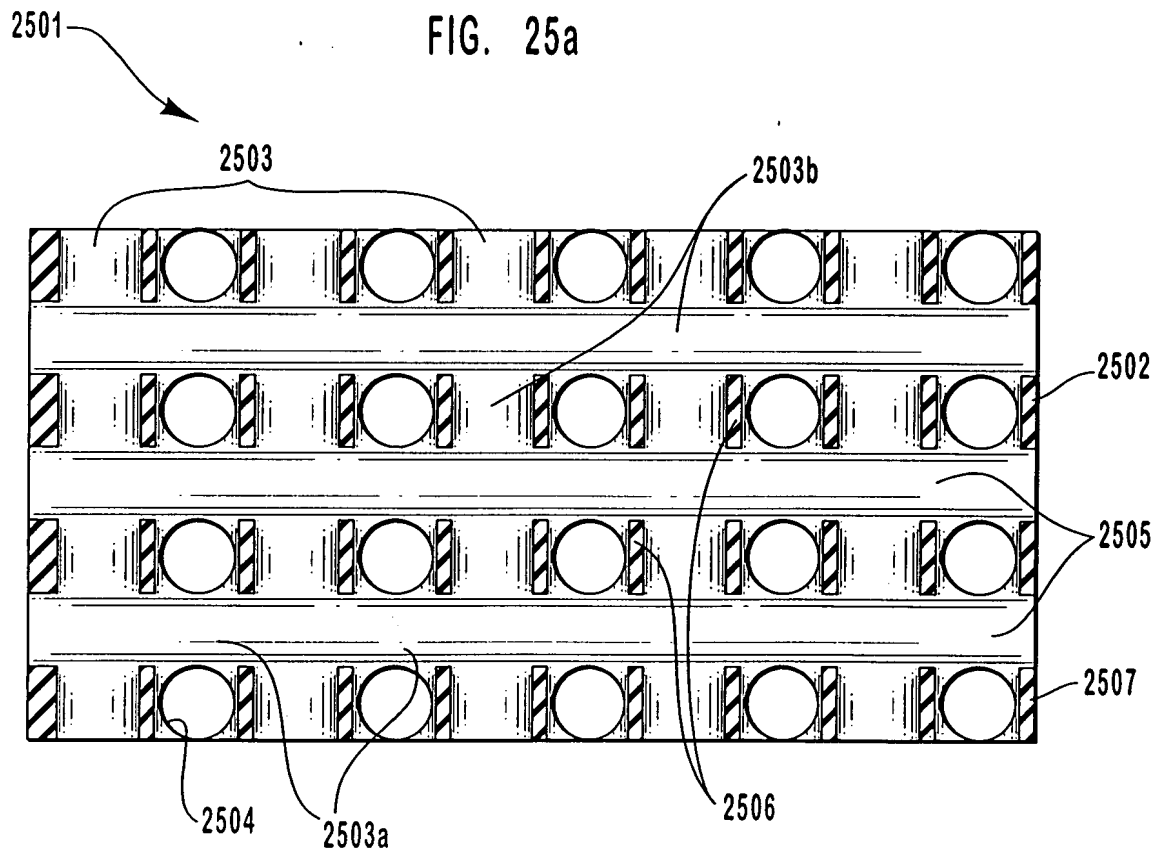
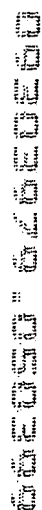
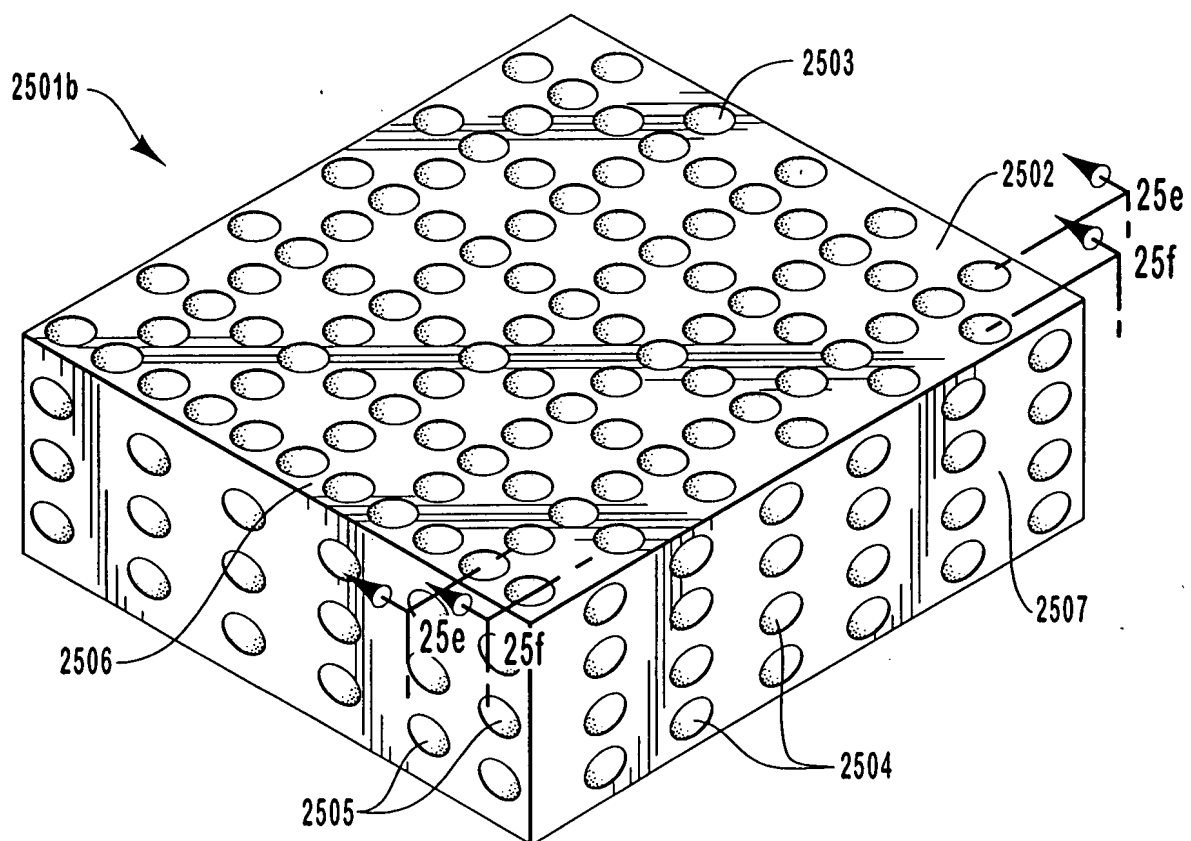


FIG. 25b

662050 6260260



510 954



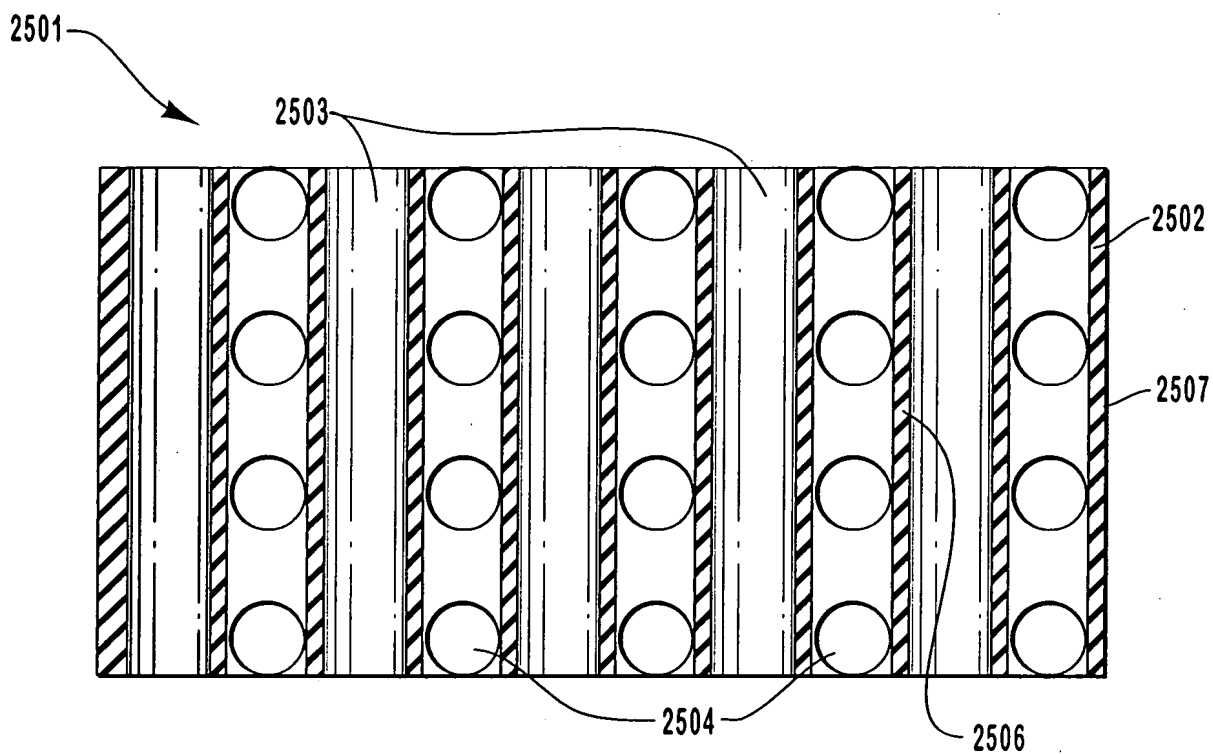


FIG. 25e

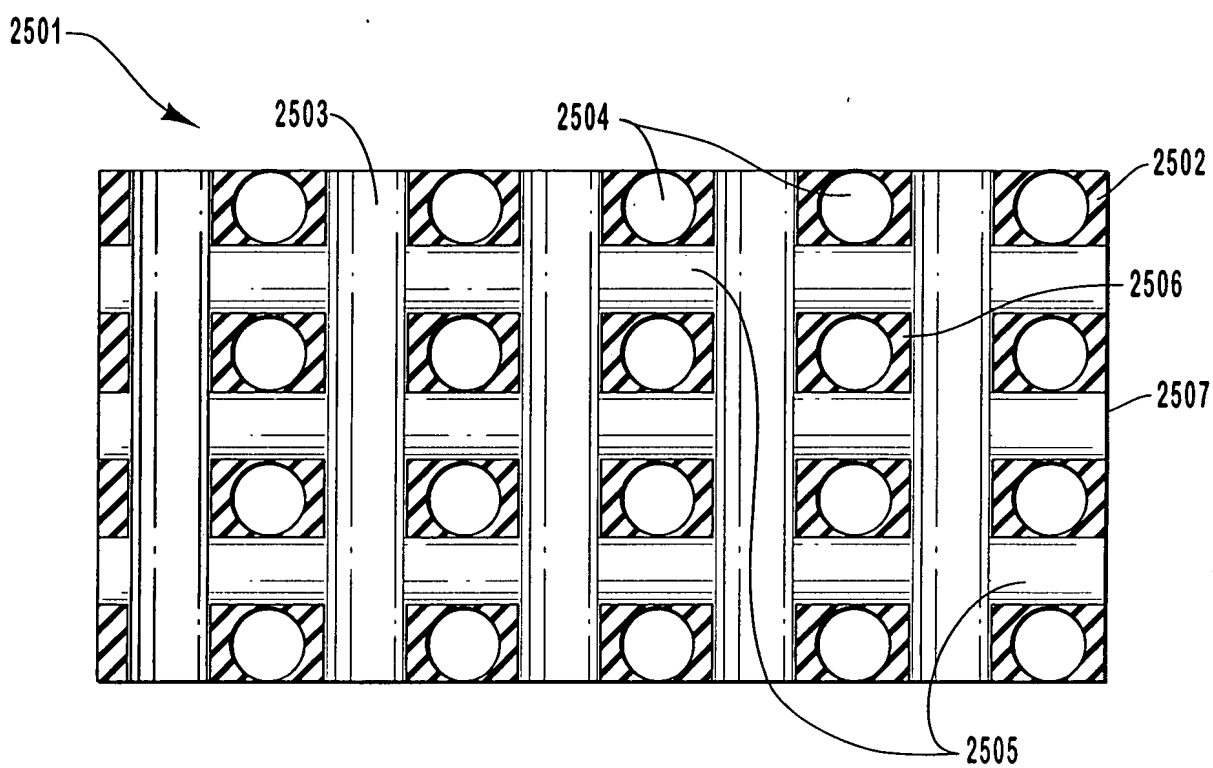


FIG. 25f

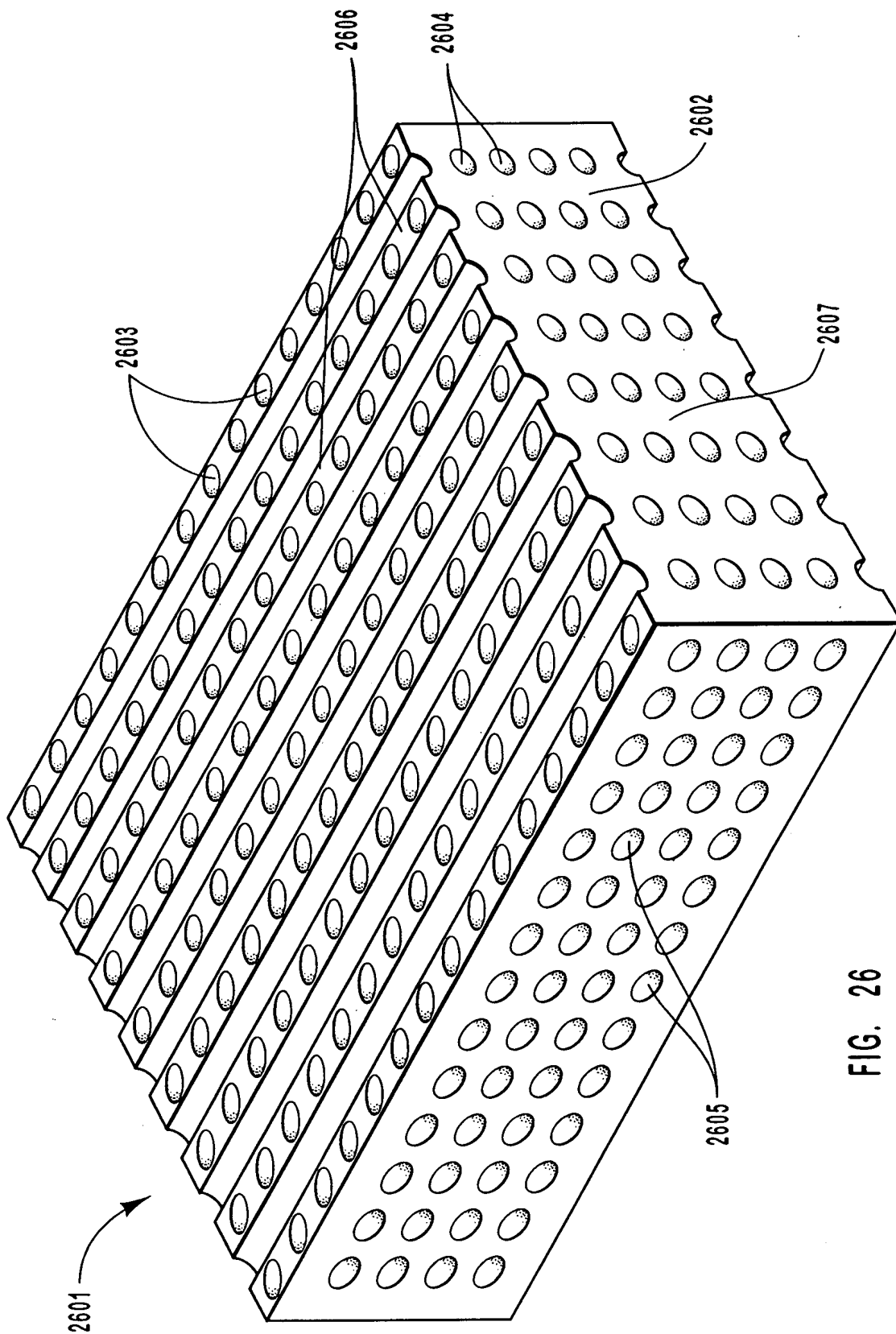


FIG. 26

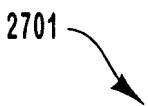


FIG. 27a

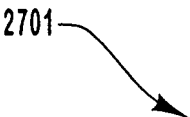


FIG. 27b

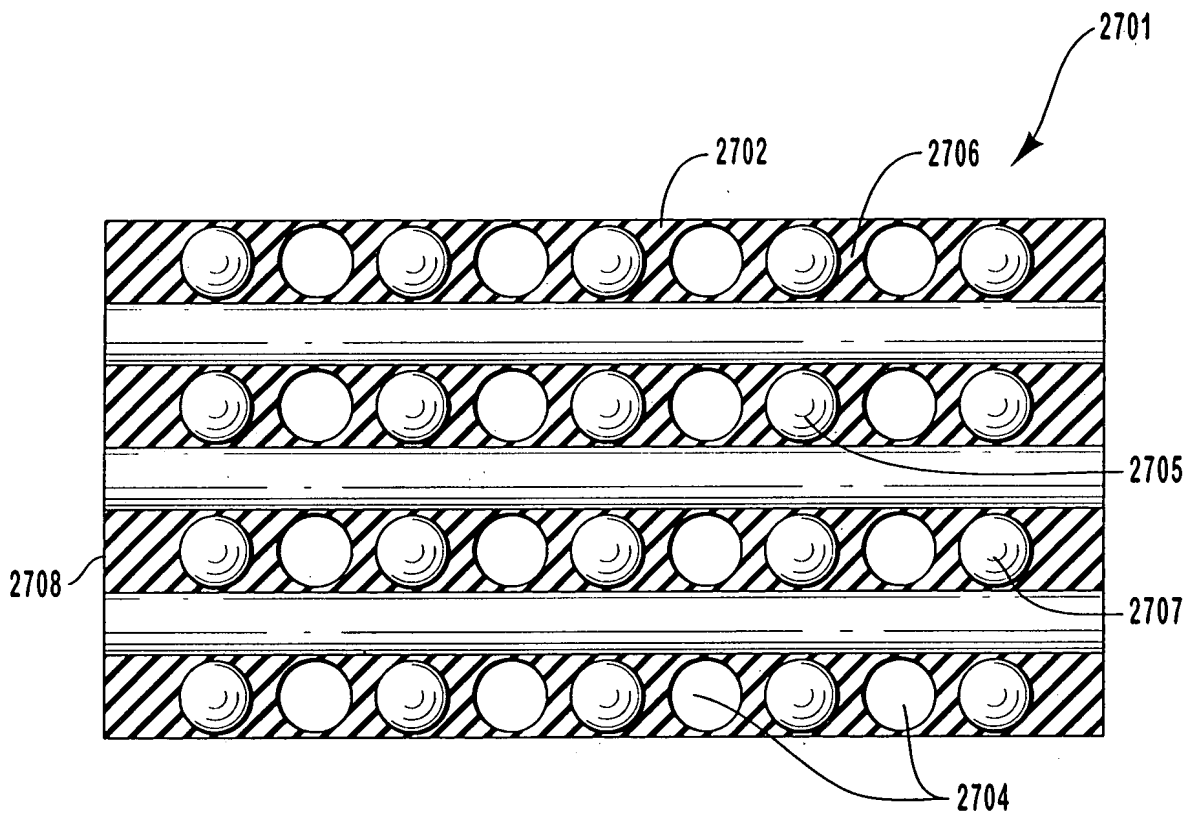


FIG. 27c

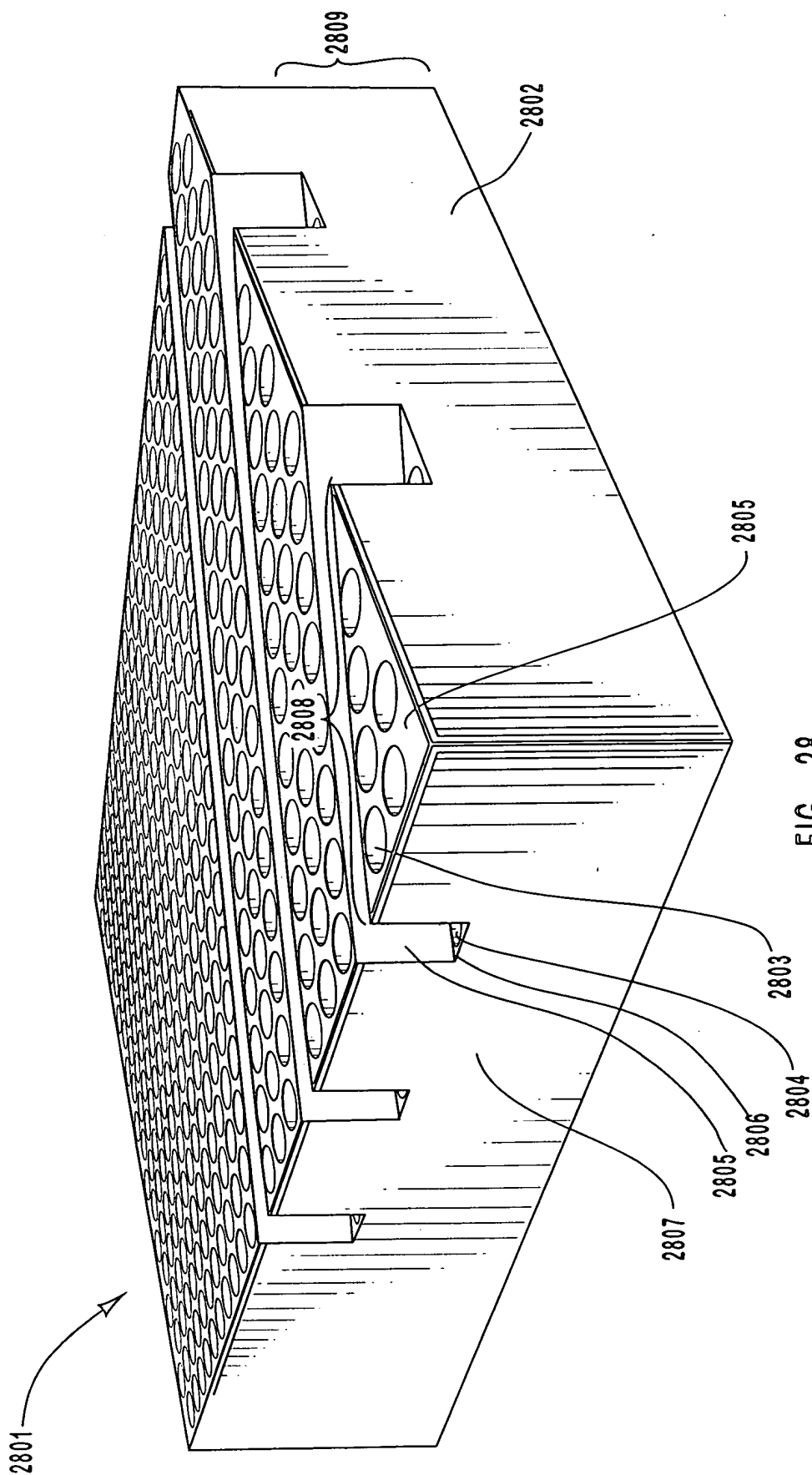


FIG. 28

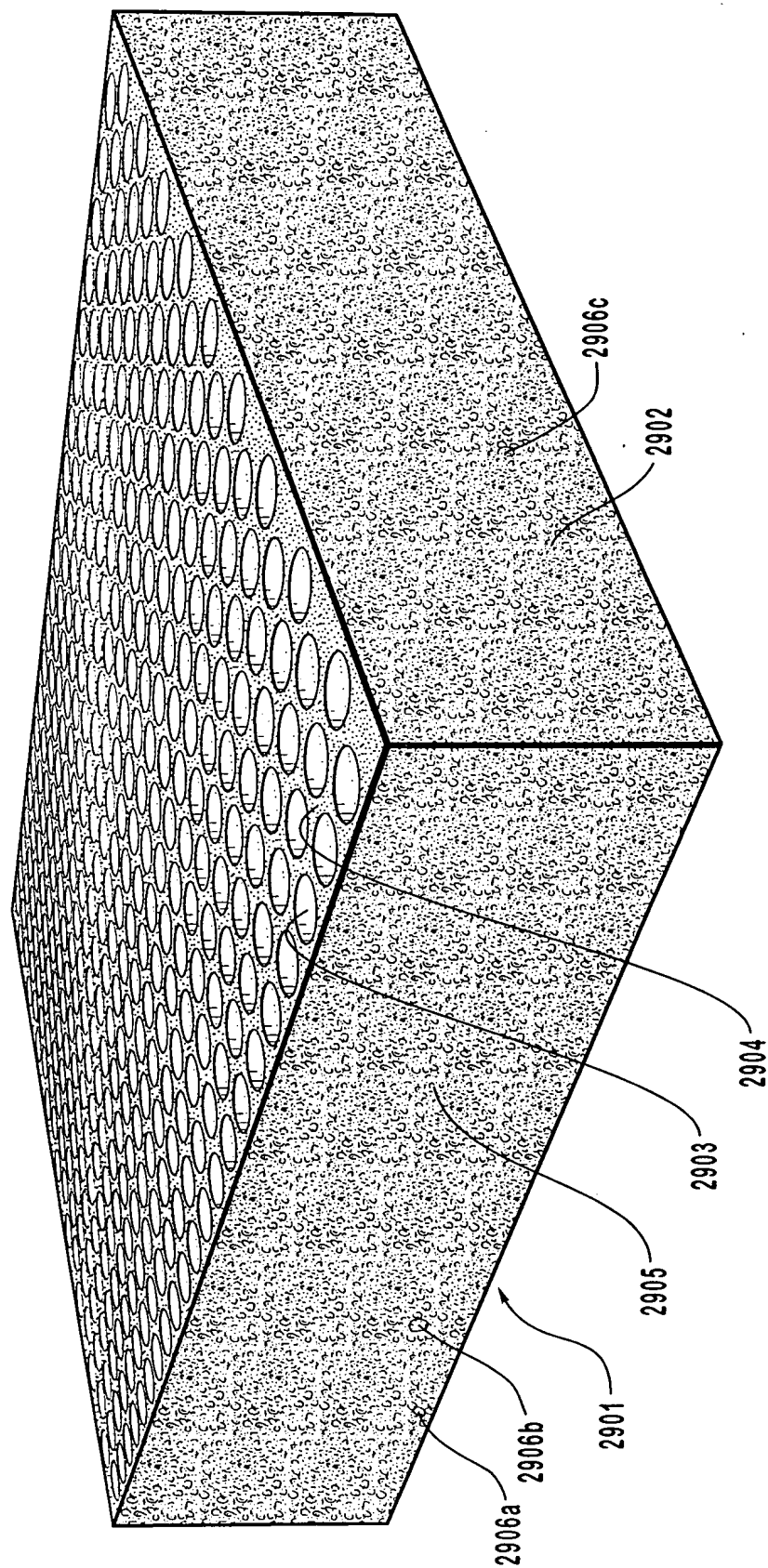


FIG. 29

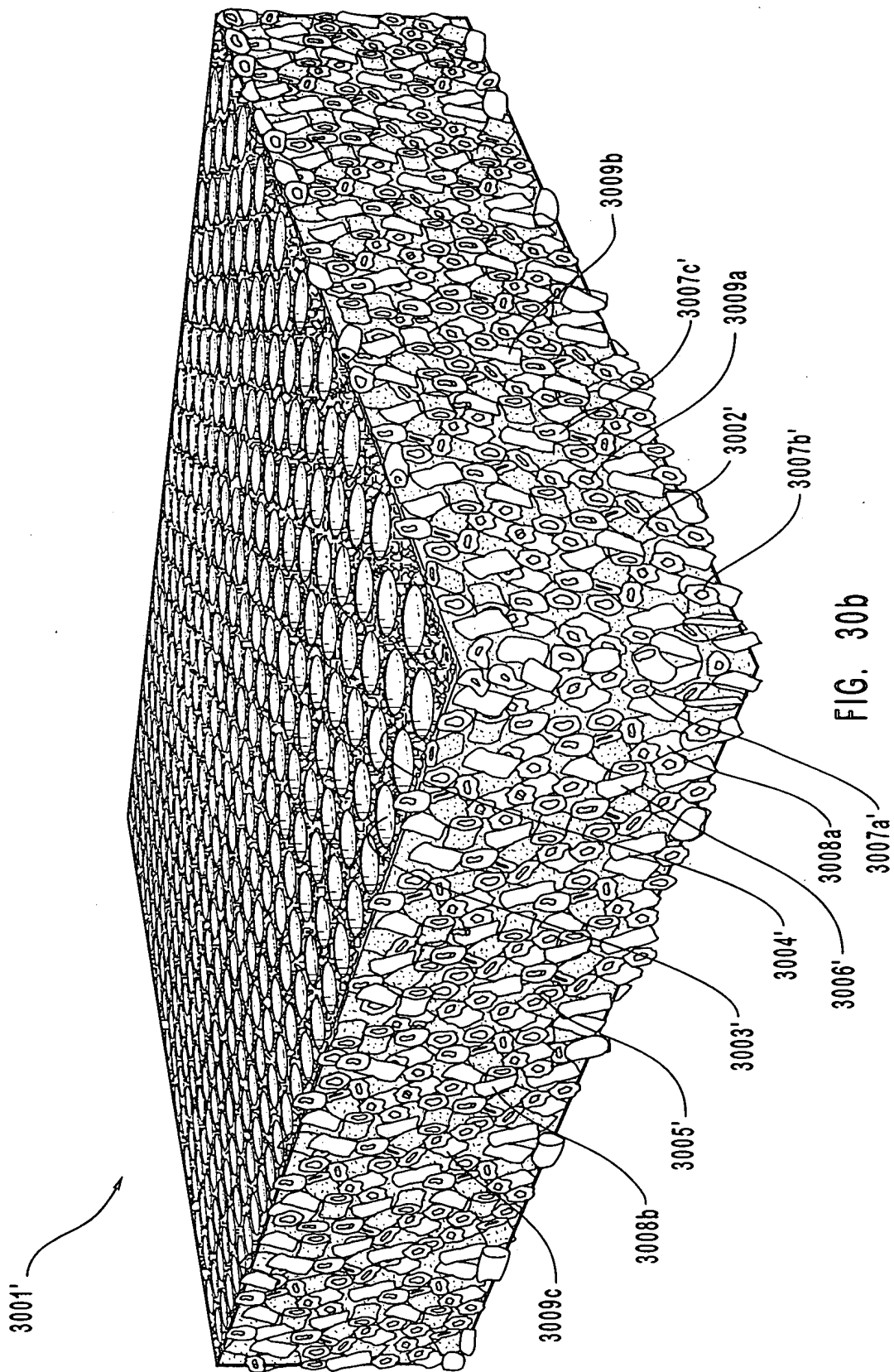


FIG. 30b

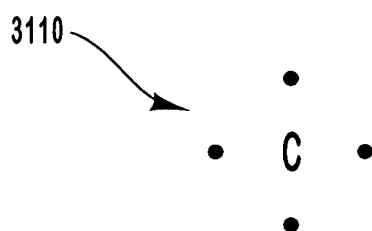


FIG. 31a

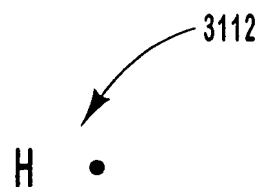


FIG. 31b

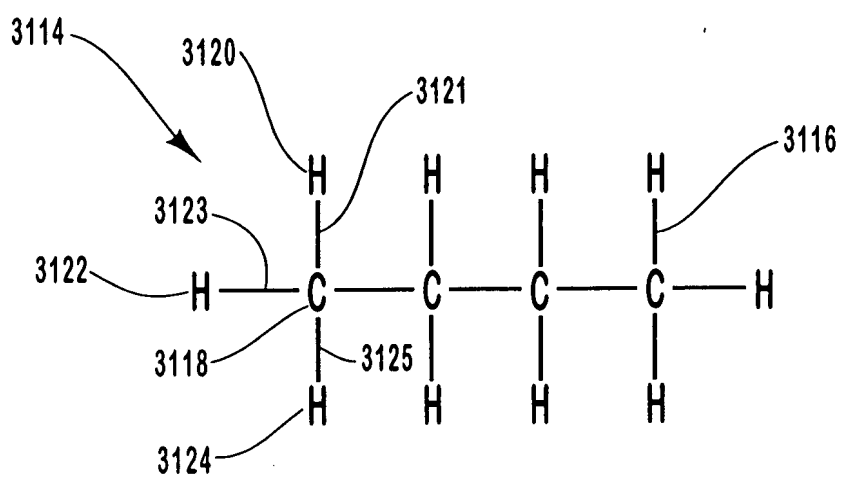


FIG. 31c

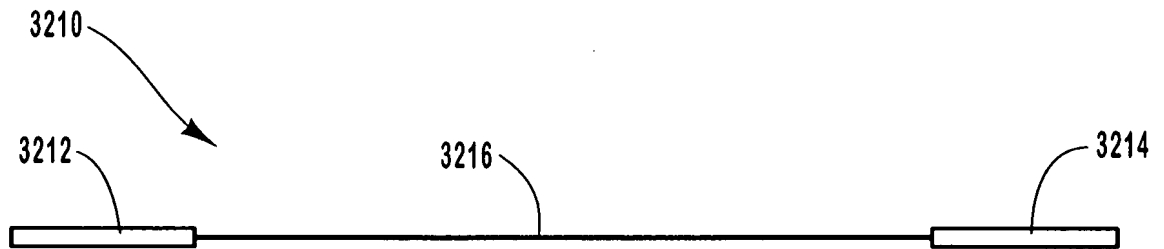


FIG. 32a

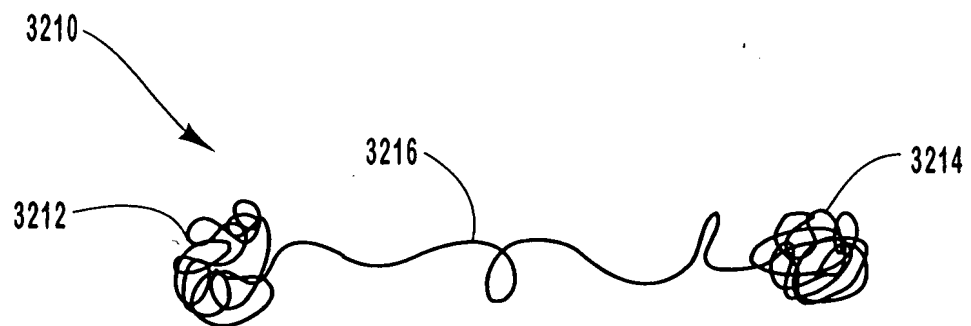


FIG. 32b

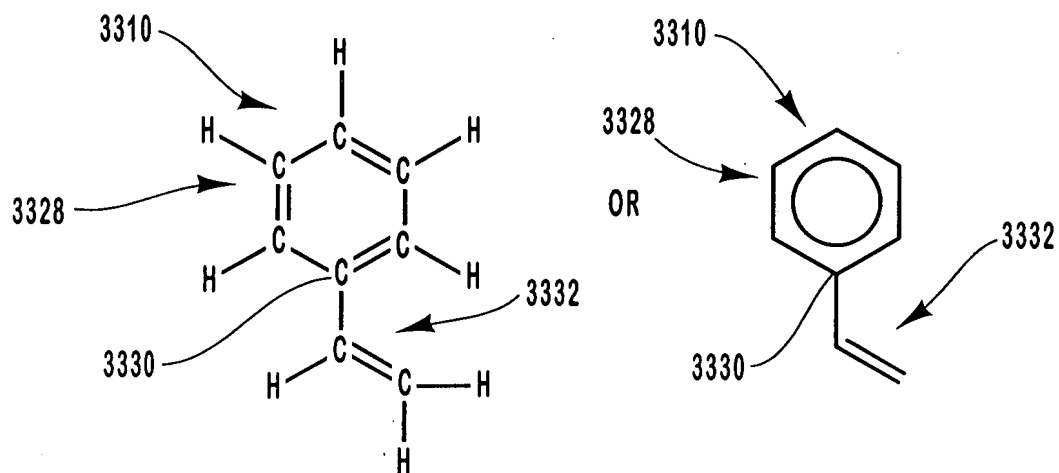


FIG. 33a

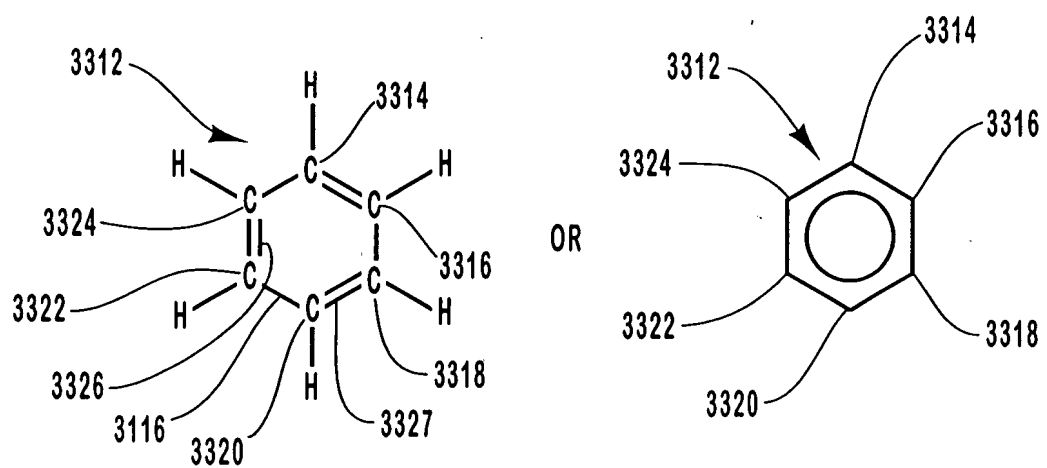


FIG. 33b

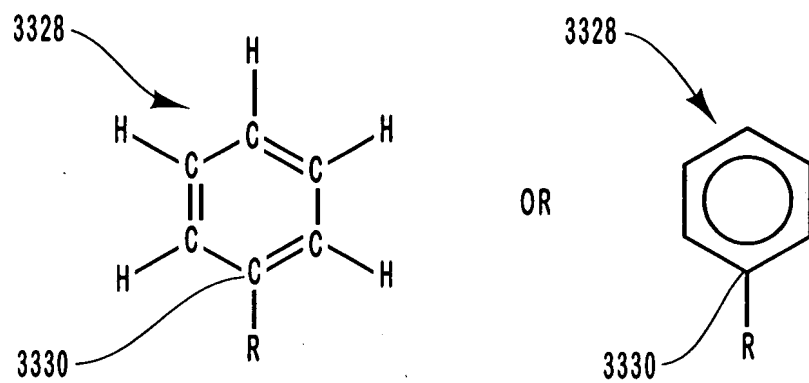


FIG. 33c

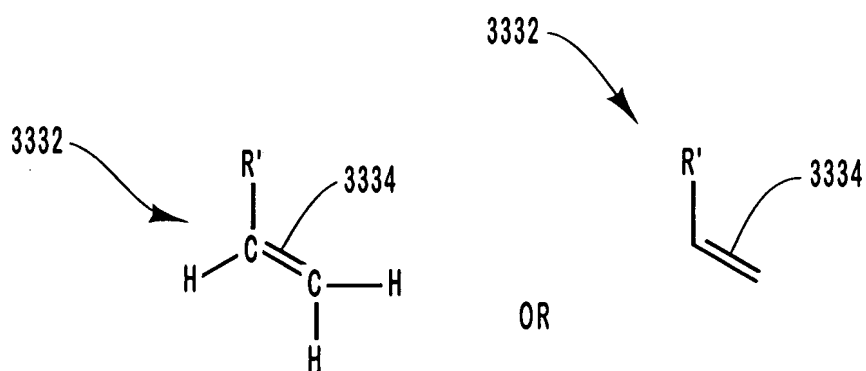


FIG. 33d

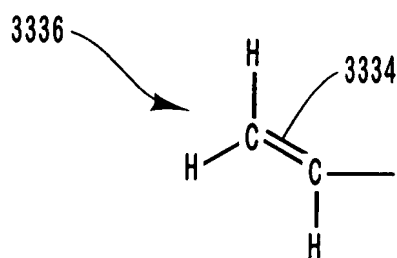


FIG. 33e

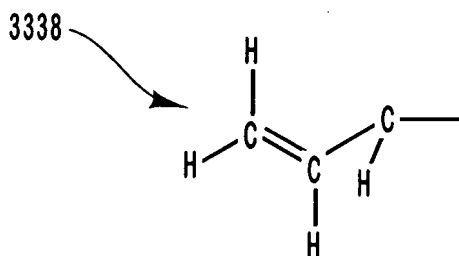


FIG. 33f

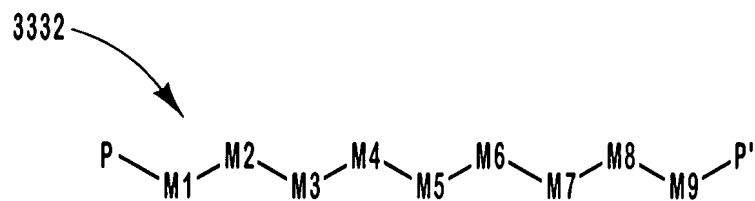


FIG. 34a

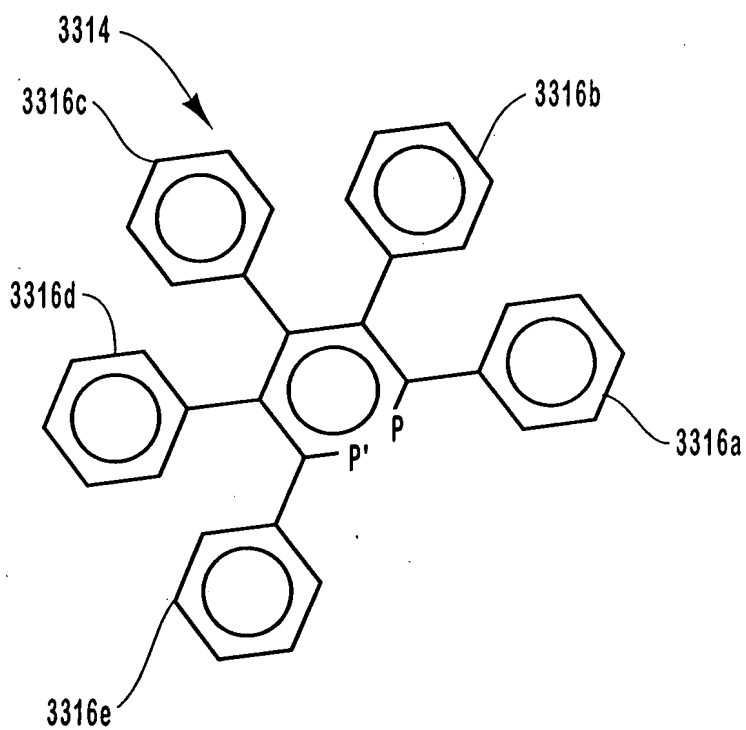


FIG. 34b

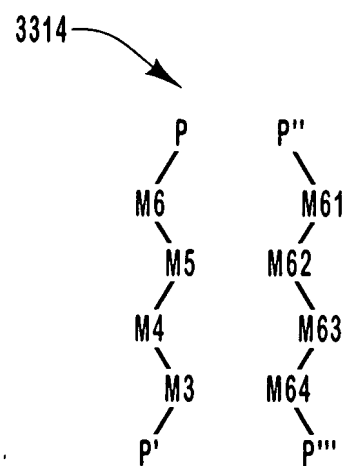


FIG. 34c

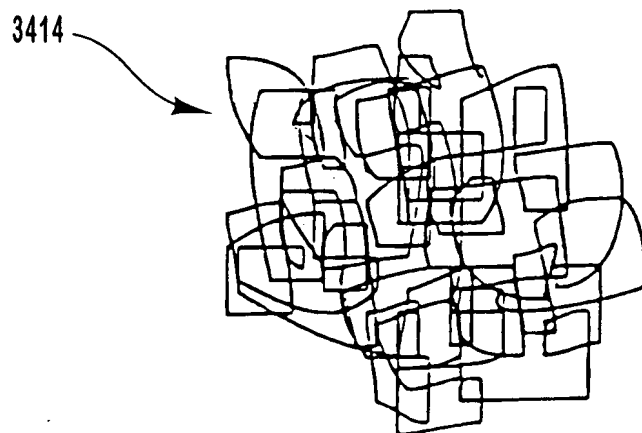



FIG. 34d

662050 62620200



3512 

3514

3515

$C \equiv C - C - C - R$

Chemical structure showing a substituted alkene. The structure consists of a carbon-carbon double bond (C=C) connected to a carbon-carbon single bond (C-C), which is further connected to a carbon-carbon double bond (C=C). The terminal carbon of the first double bond is labeled 3516. The internal carbon of the first double bond is labeled 3518. The internal carbon of the second double bond is labeled 3520. The terminal carbon of the second double bond is labeled 3522. The structure is terminated by a substituent R.

3524

3526

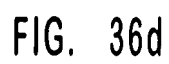
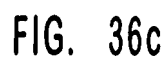
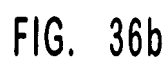
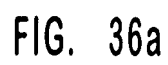
3532

3528

3530

$C=C-C-C=R$

FIG. 35e



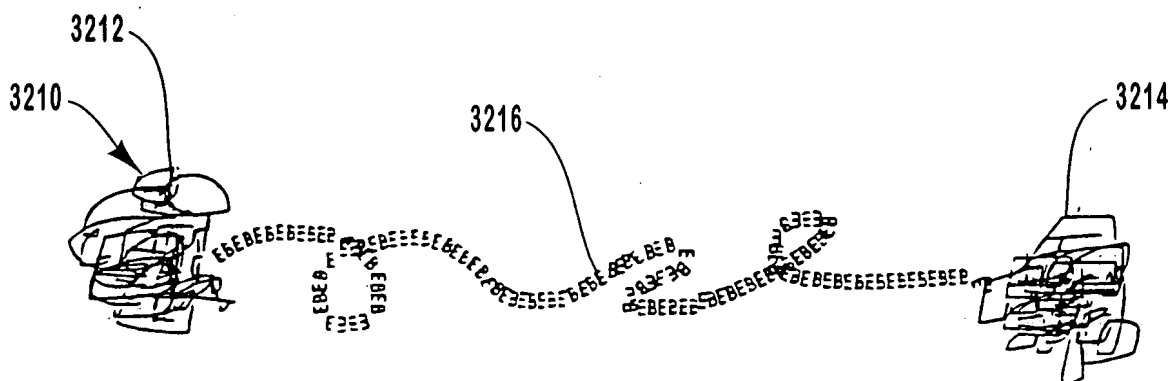


FIG. 37a

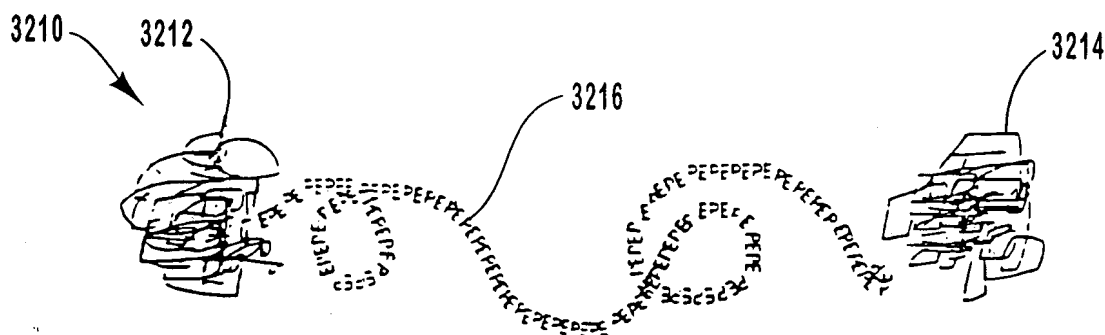


FIG. 37b

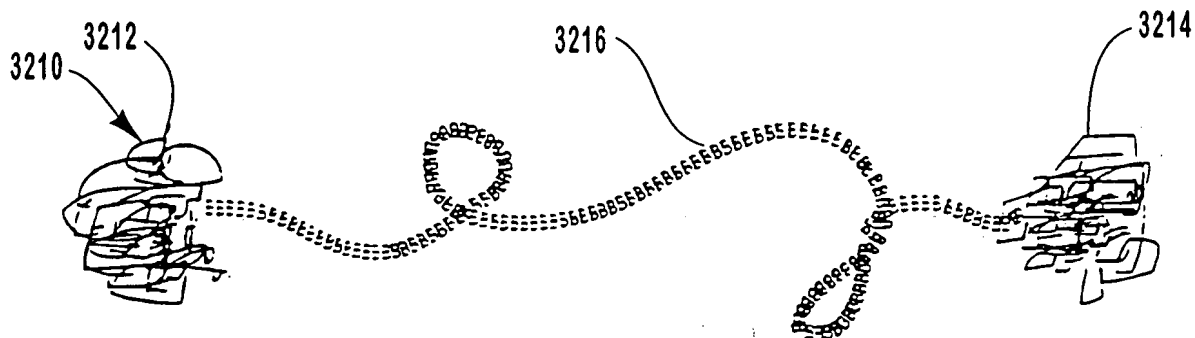
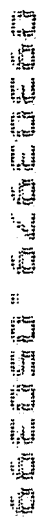
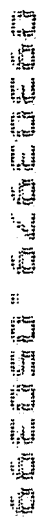
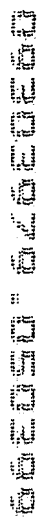


FIG. 37c

662050-6260200

[illegible][illegible][illegible]

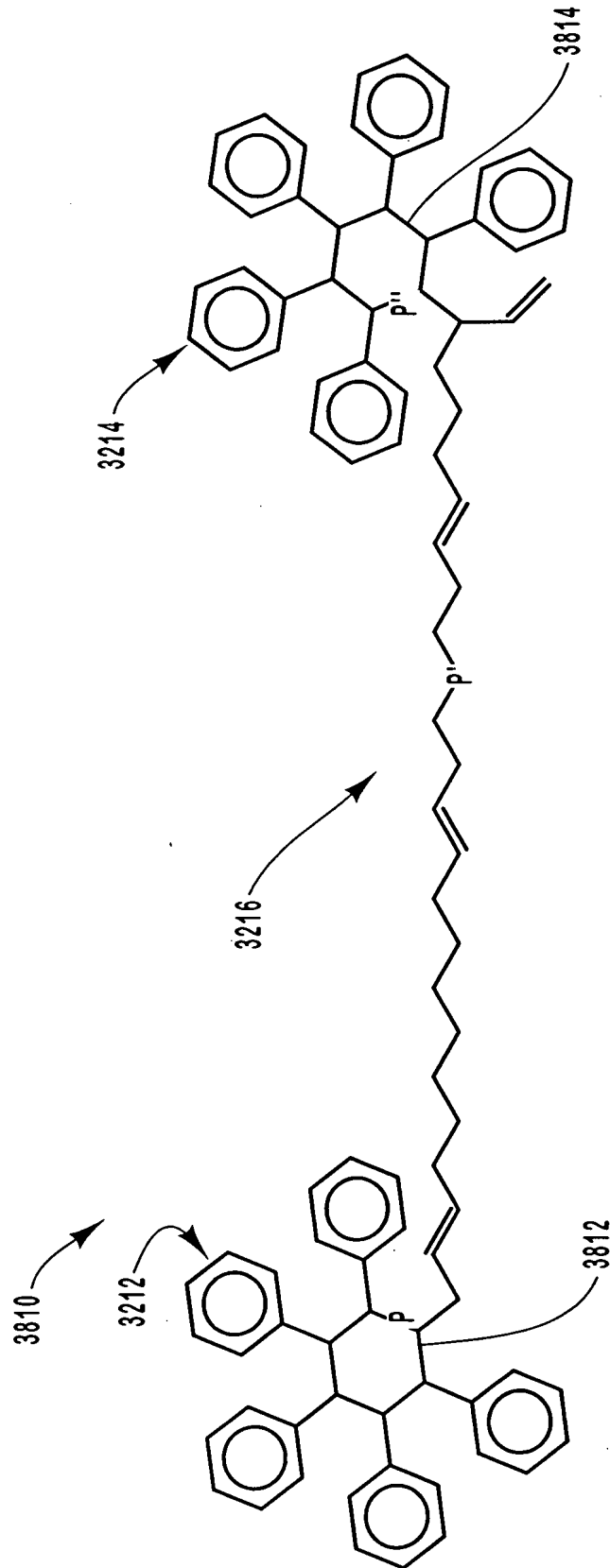


FIG. 38a

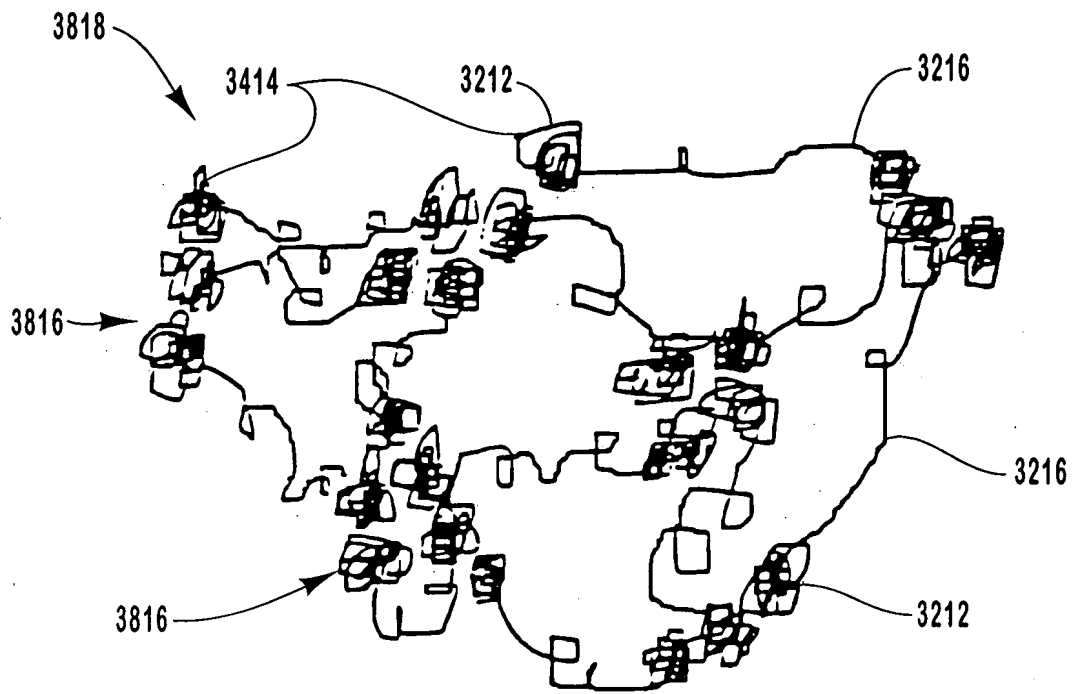


FIG. 38b

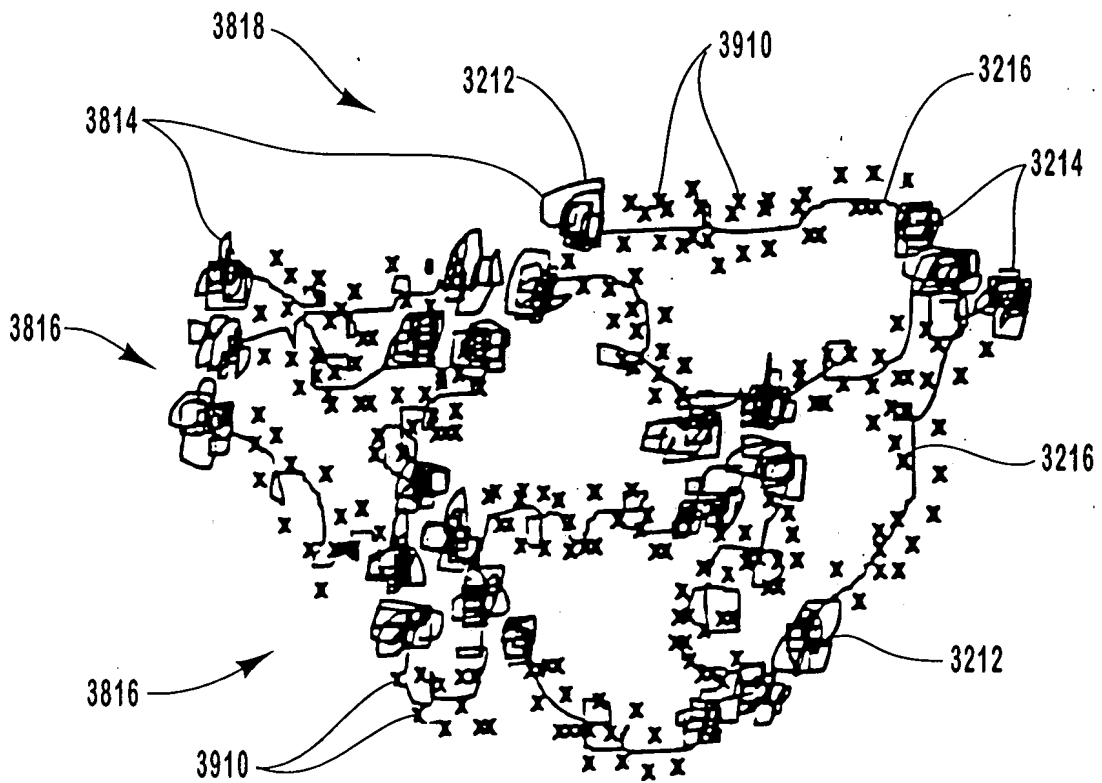
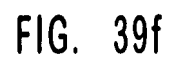
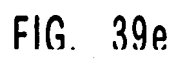
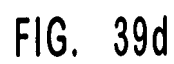
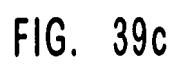
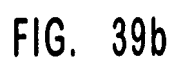


FIG. 39a



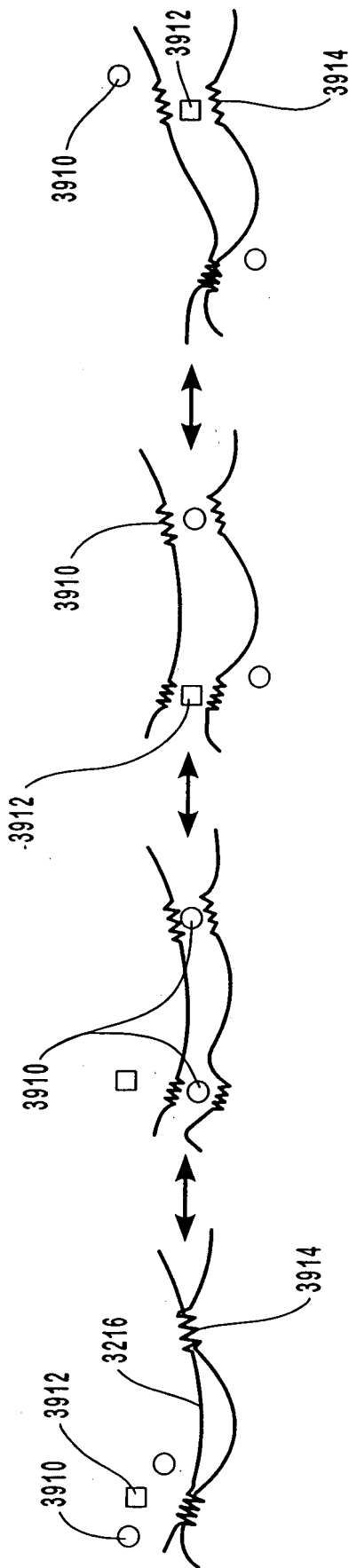


FIG. 39g

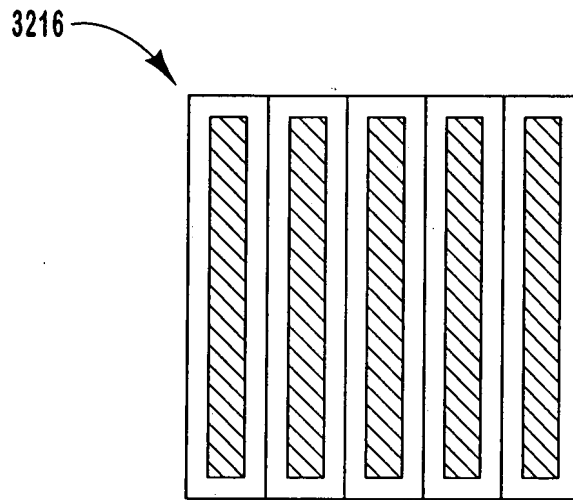


FIG. 39h

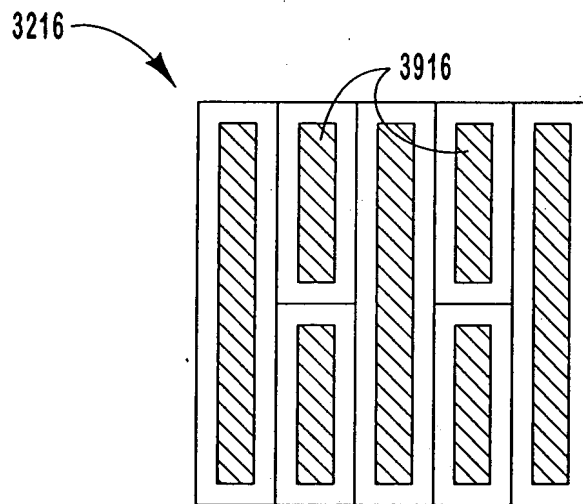
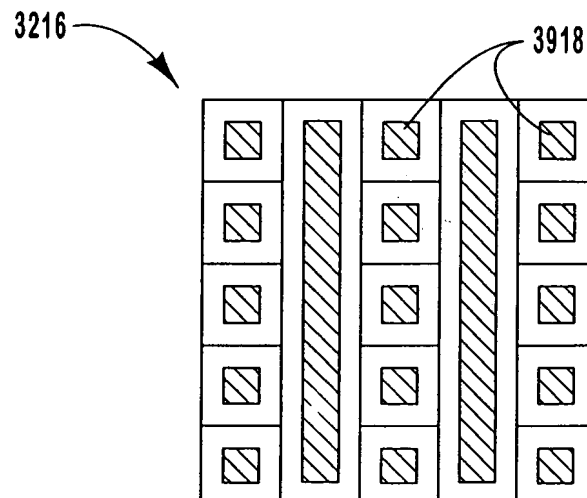


FIG. 39i



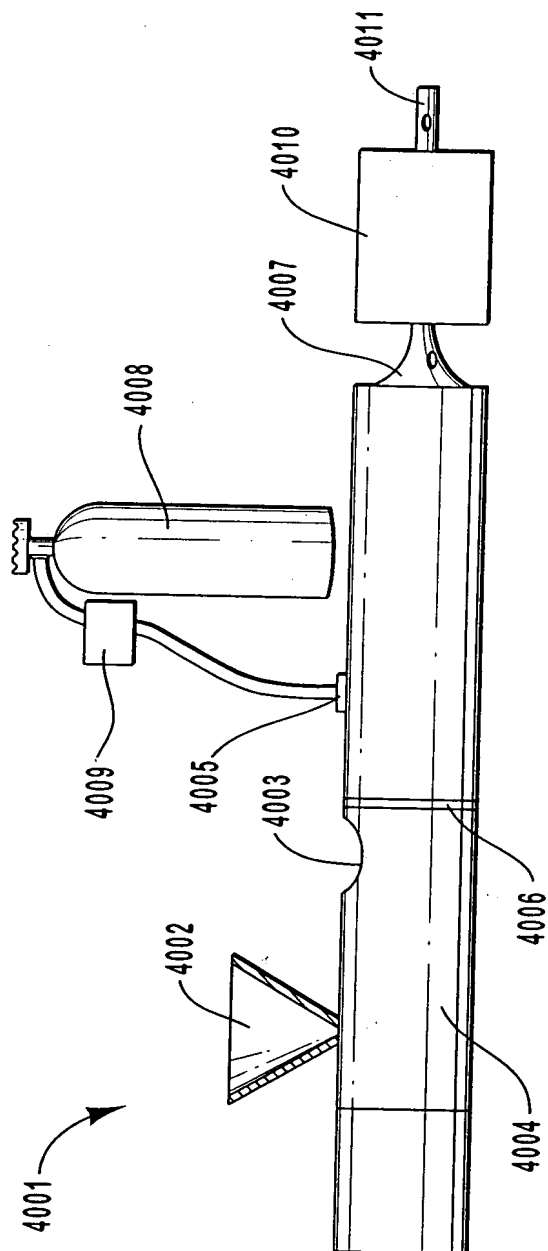


FIG. 40a

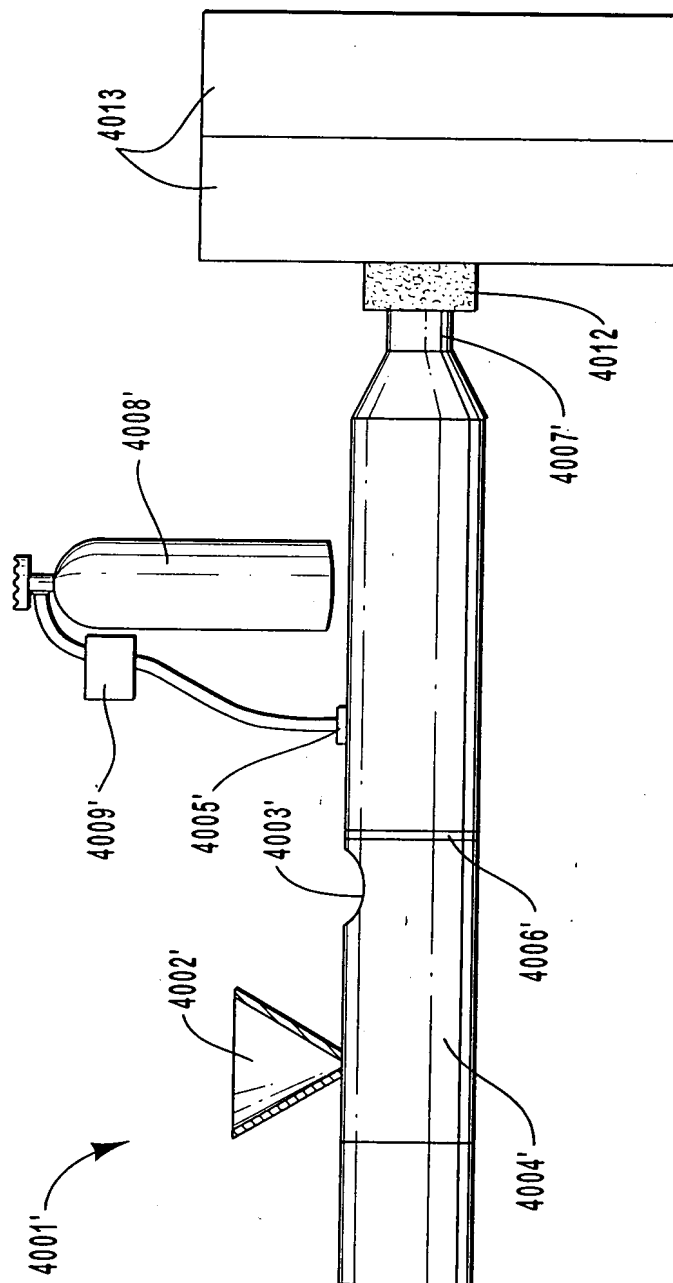


FIG. 40b

55E030" 625E0260

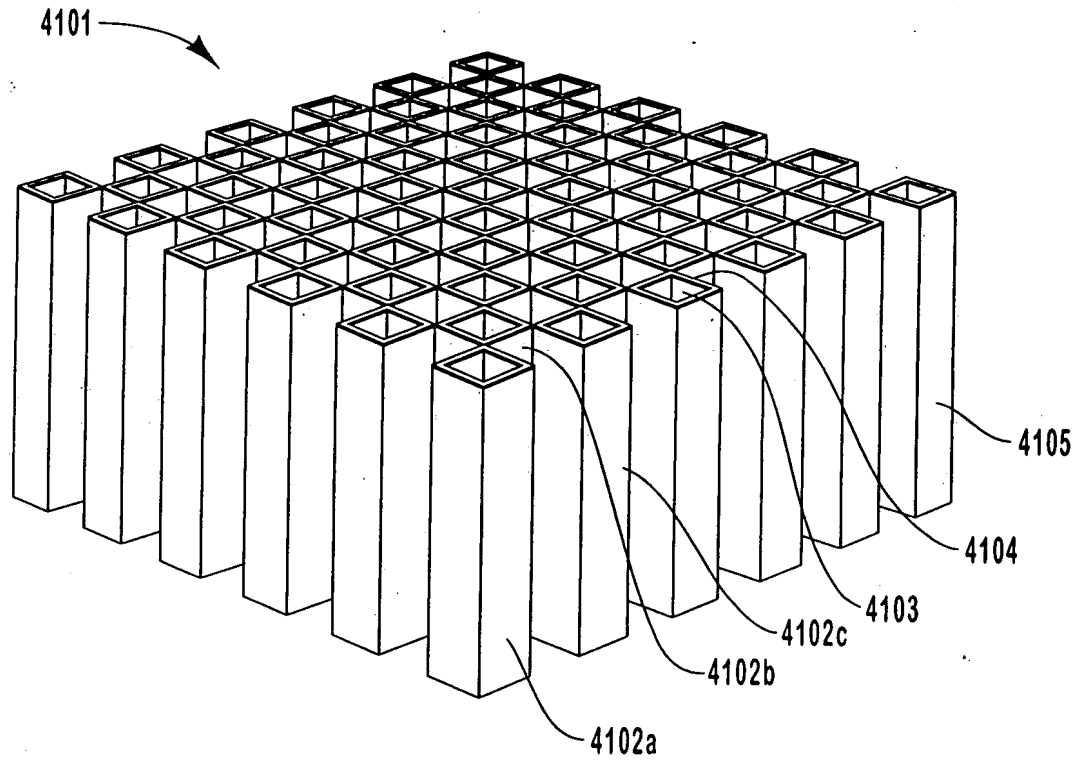


FIG. 41

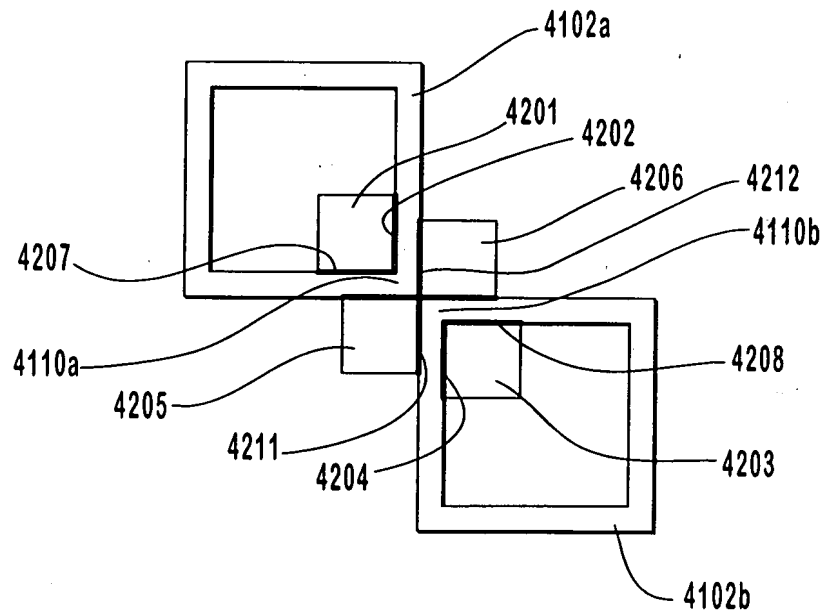


FIG. 42

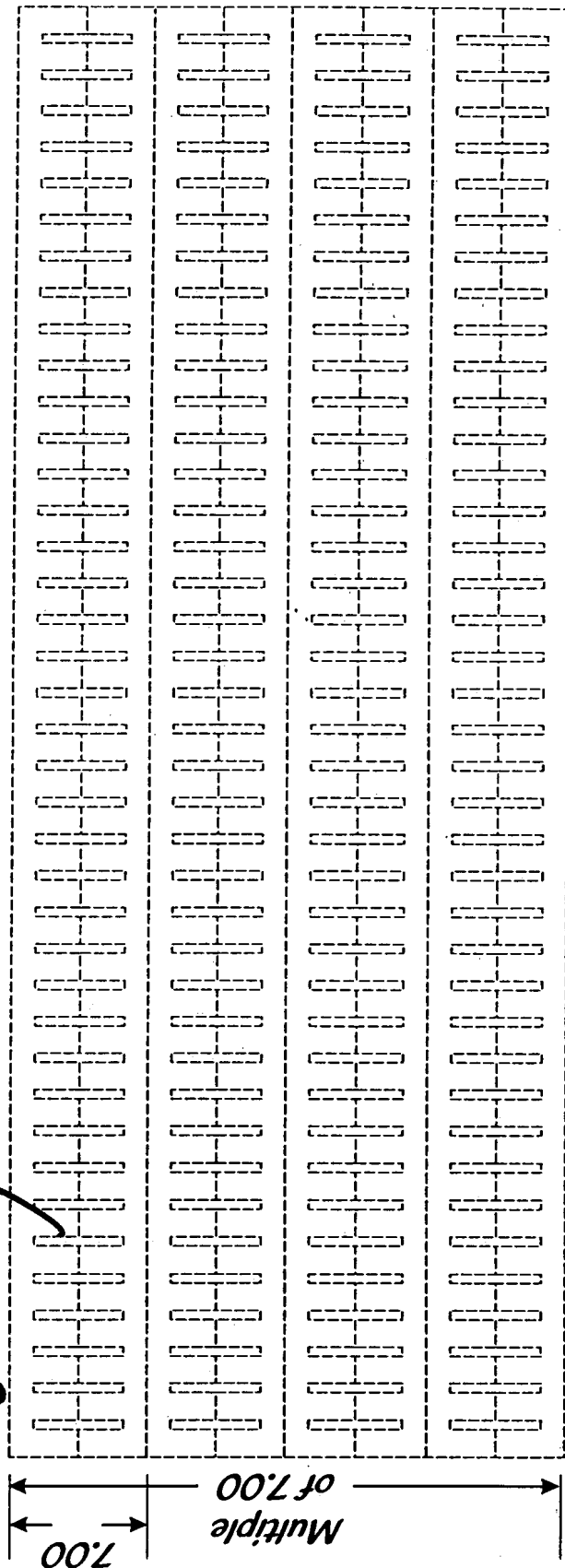
66E050 62E0E0E0

FIGURE ~~42~~ 43

4301

4302

Step 1: Cut foam bun (along dashed lines) with CNC contour cutter

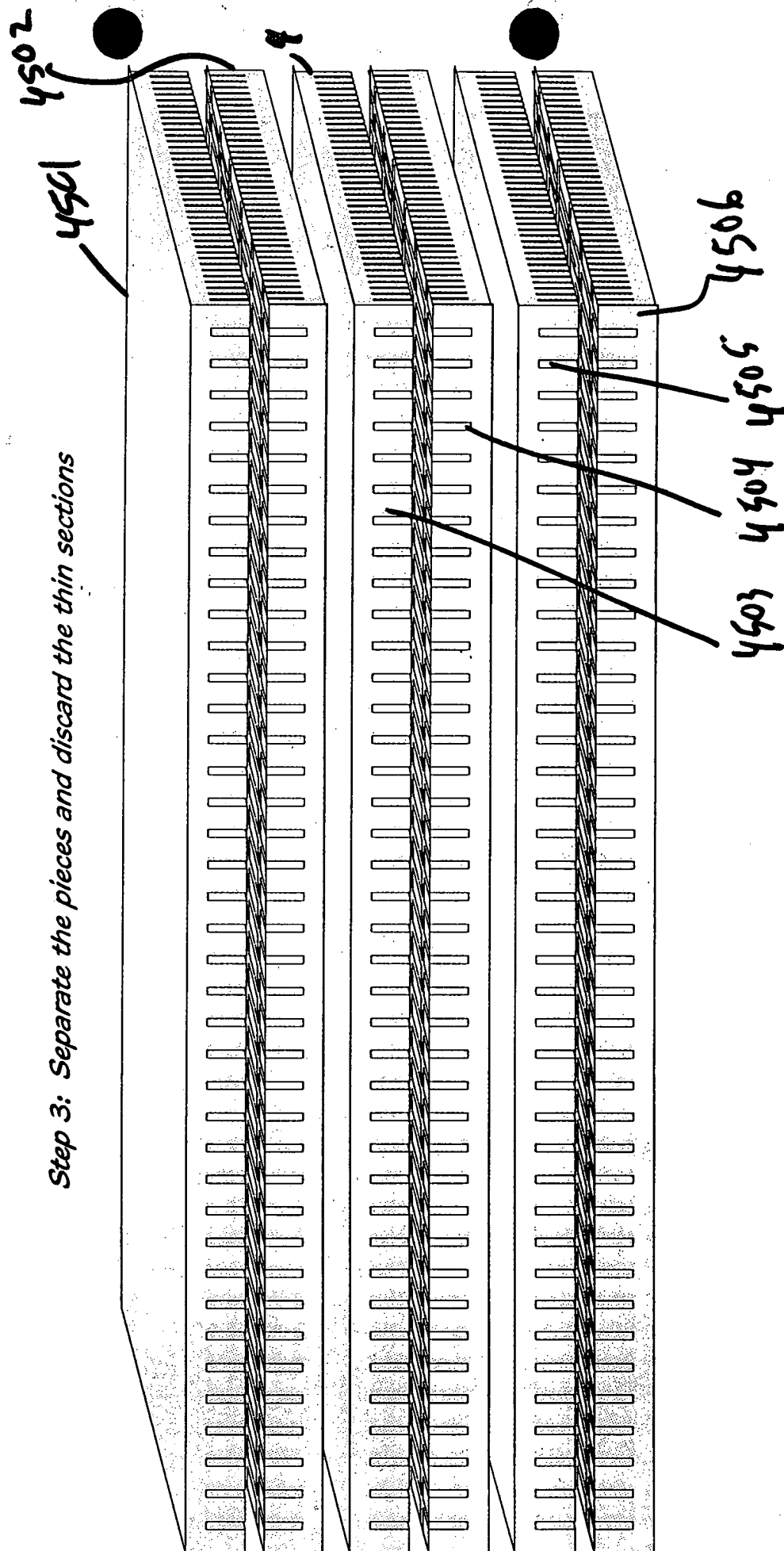


5:18 PM

66E050 66E0E00

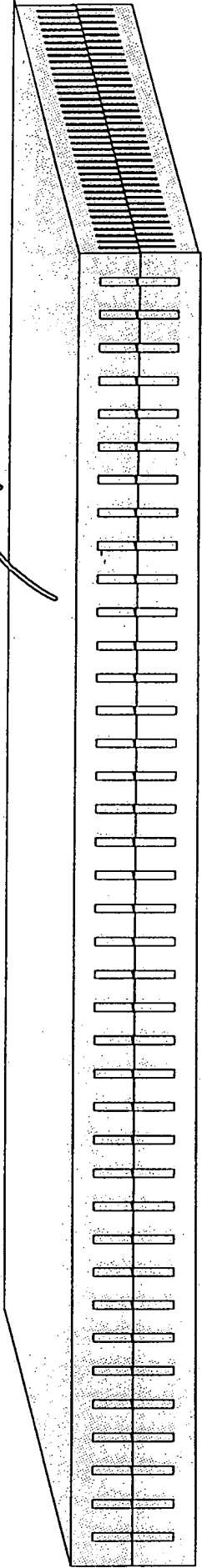
FIGURE ~~45~~ 45

Step 3: Separate the pieces and discard the thin sections

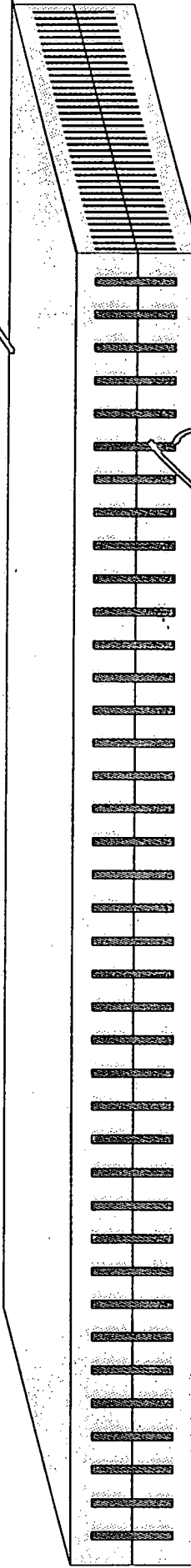


FIGURE

Step 4: Bond with adhesive



Step 5: Insert side support foam pieces (do not bond) all four sides



4702

1075

All material: HR50280 high resiliency polyurethane foam

FIGURE 48

HR50280

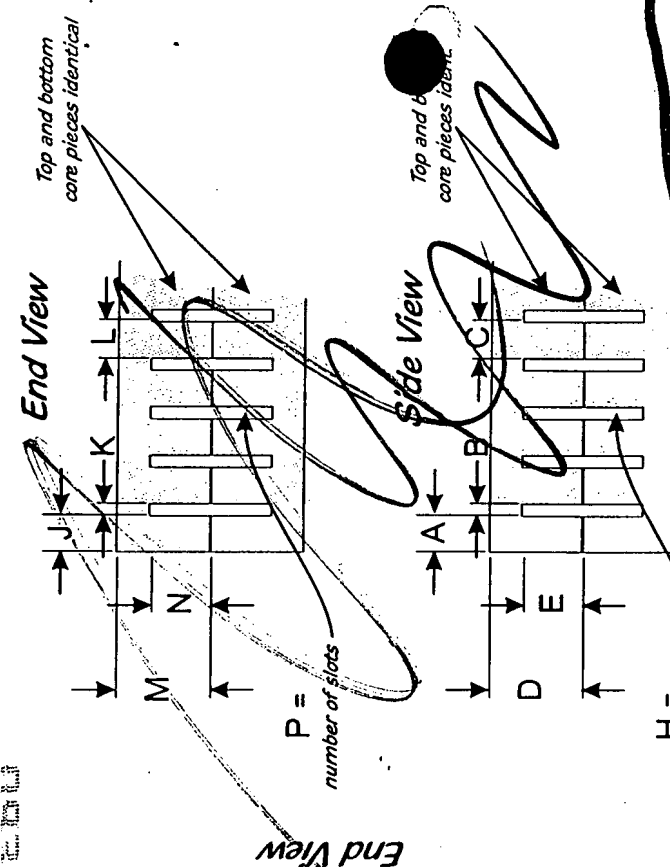
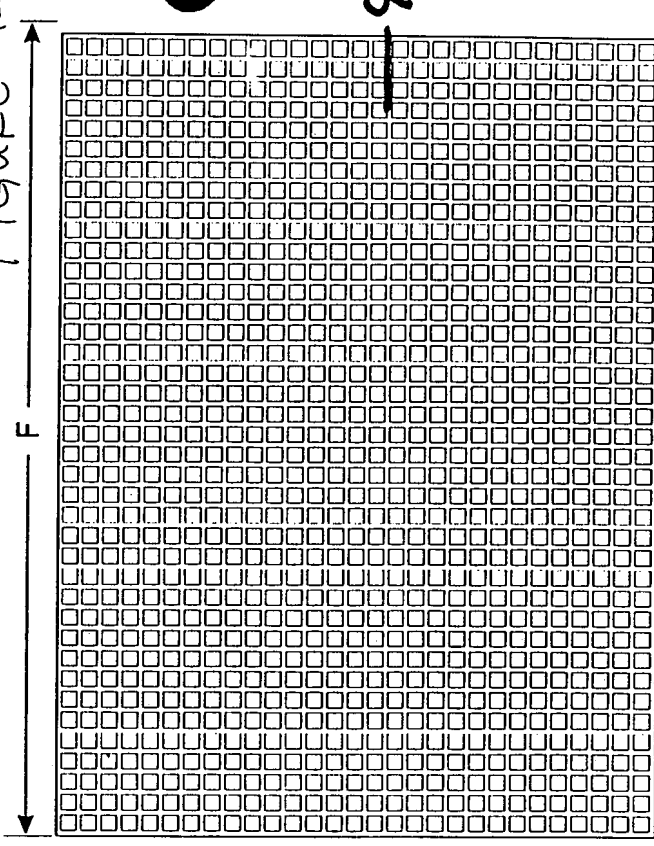
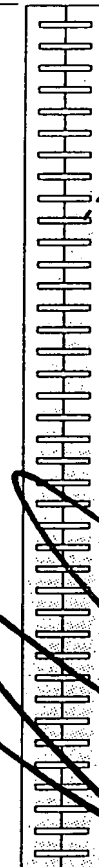
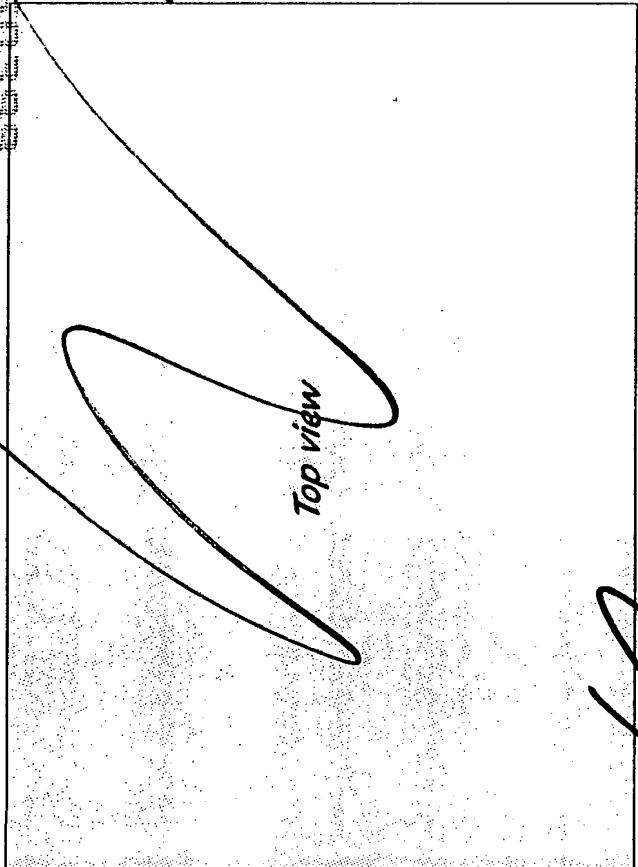


FIGURE 48



Top view of Bottom Core Piece



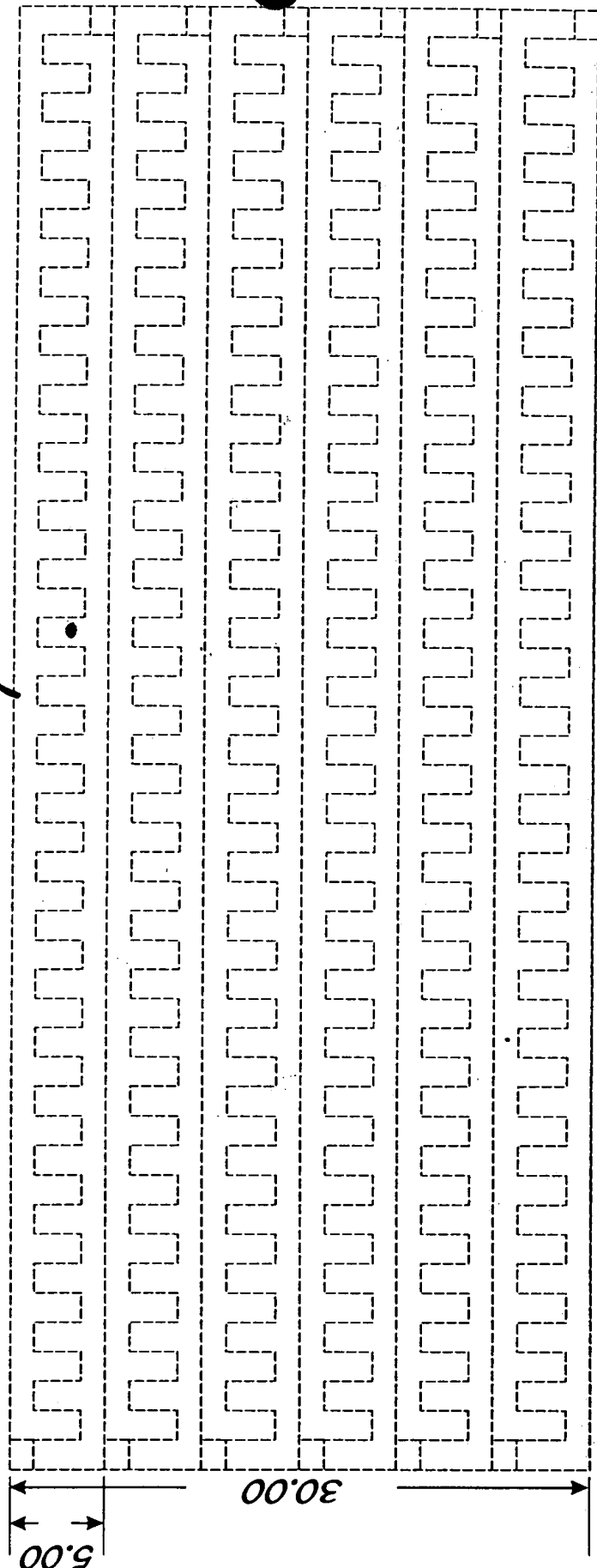
Dimensions:

Dimension (inches)	Twin	XL	Double	Double XL	Queen	King	Cal King
A	1.50	1.50	1.50	1.50	1.50	1.50	1.50
B	0.53	0.50	0.53	0.50	0.50	0.50	0.51
C	1.50	1.50	1.50	1.50	1.50	1.50	1.50
D	3.50	3.50	3.50	3.50	3.50	3.50	3.50
E	2.50	2.50	2.50	2.50	2.50	2.50	2.50
F	74.50	79.50	74.50	79.50	79.50	79.50	84.00
G	38.00	38.00	53.00	53.00	60.00	60.00	72.00
H	36	39	36	39	39	39	41
I	1.50	1.50	1.50	1.50	1.50	1.50	1.50
J	0.53	0.53	0.48	0.48	0.52	0.51	0.51
K	1.50	1.50	1.50	1.50	1.50	1.50	1.50
L	3.50	3.50	3.50	3.50	3.50	3.50	3.50
M	2.50	2.50	2.50	2.50	2.50	2.50	2.50
N	18	18	26	26	29	37	35
P	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Q	5.50	5.50	5.50	5.50	5.50	5.50	5.50
R	0.53	0.50	0.53	0.50	0.50	0.50	0.51
S	100	106	116	122	128	144	144
# of side support pieces							

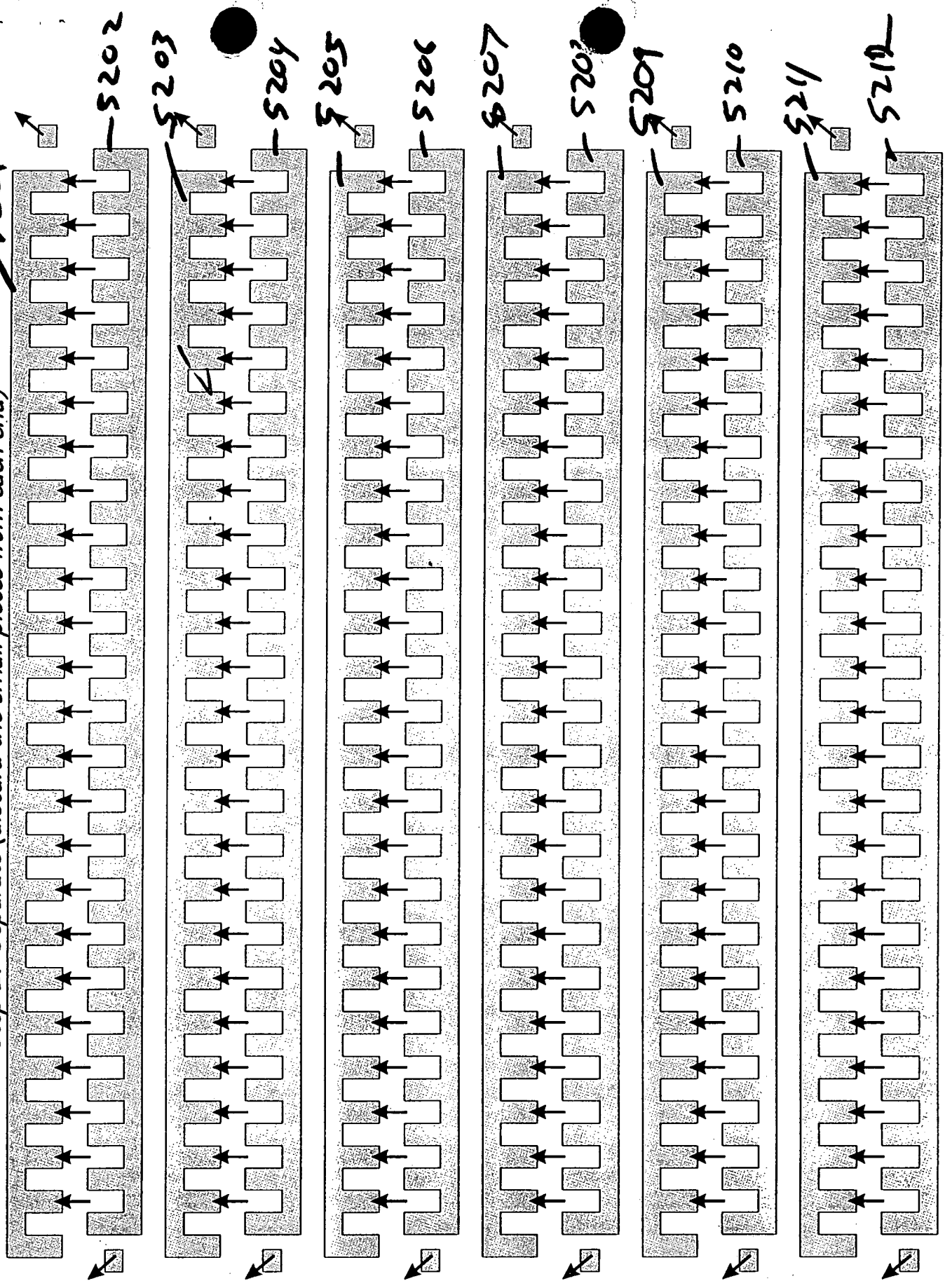
66E050 620E0E00

FIGURE 5 ~~5101~~

5101
Step 1: Cut foam bun (along dashed lines) with X-Y programmable wire profile saw



Step 2: Separate (discard the small pieces from each end)



602030-620022 ~~52~~
Figure

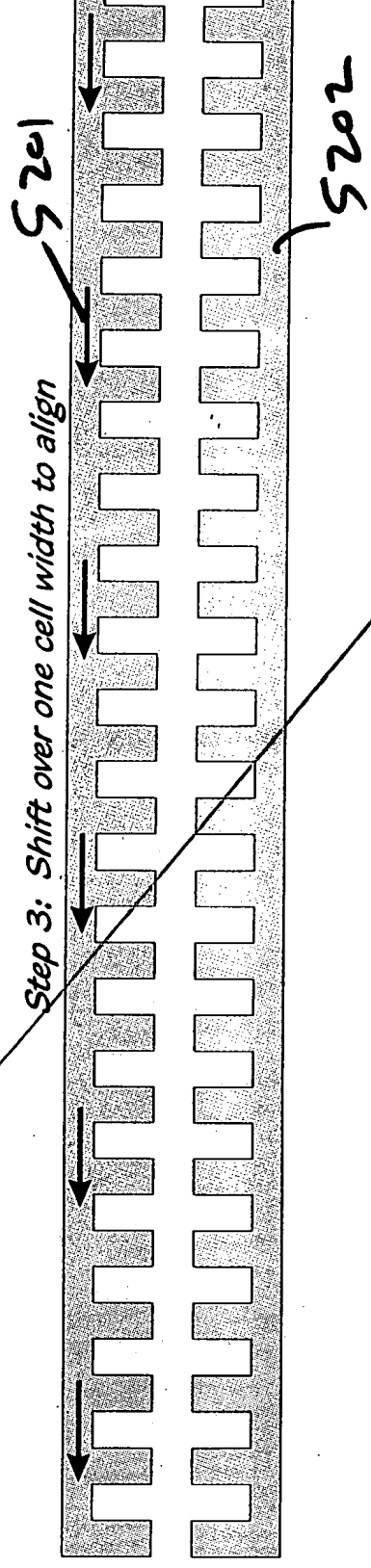
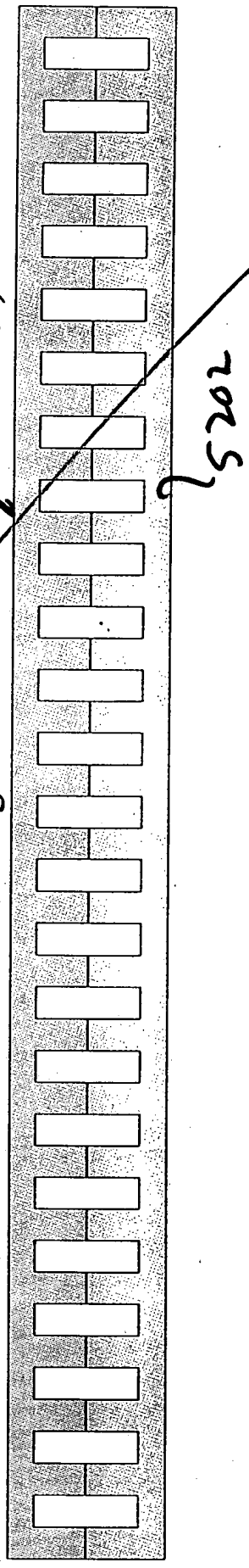


Fig. 53

5201
Step 4: Bond with adhesive (the original 5.00" thickness becomes 7.50")



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~~Figure 52a~~

Figure 52a

Step 3: Shift over one cell width to align

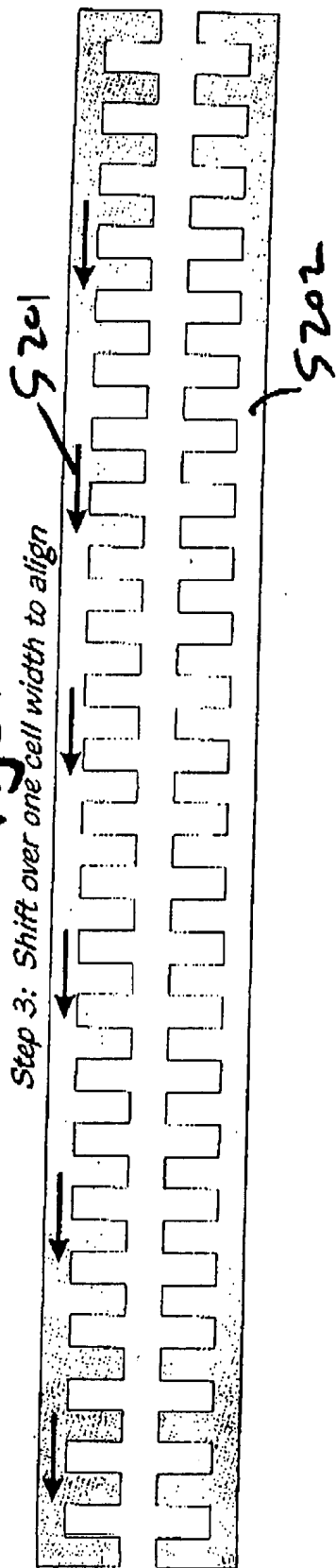
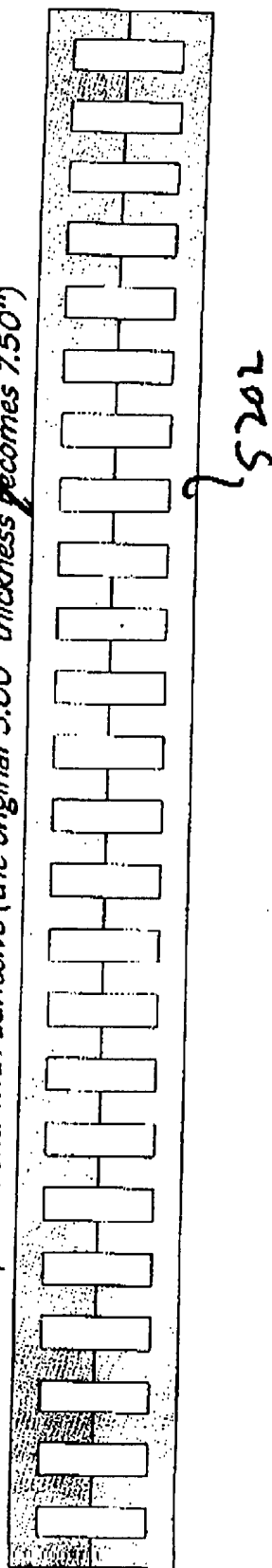


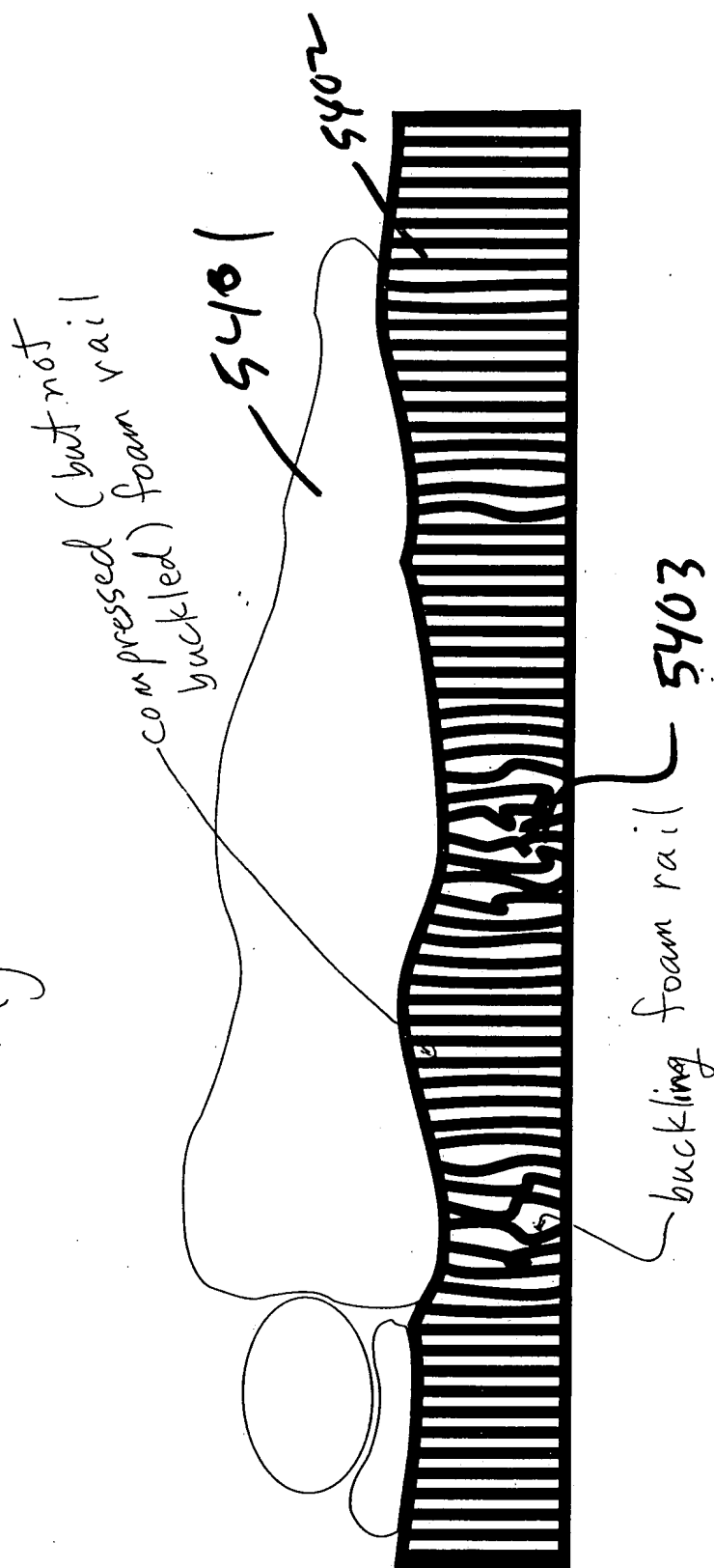
Fig. 53

Step 4: Bond with adhesive (the original 5.00" thickness becomes 7.50")



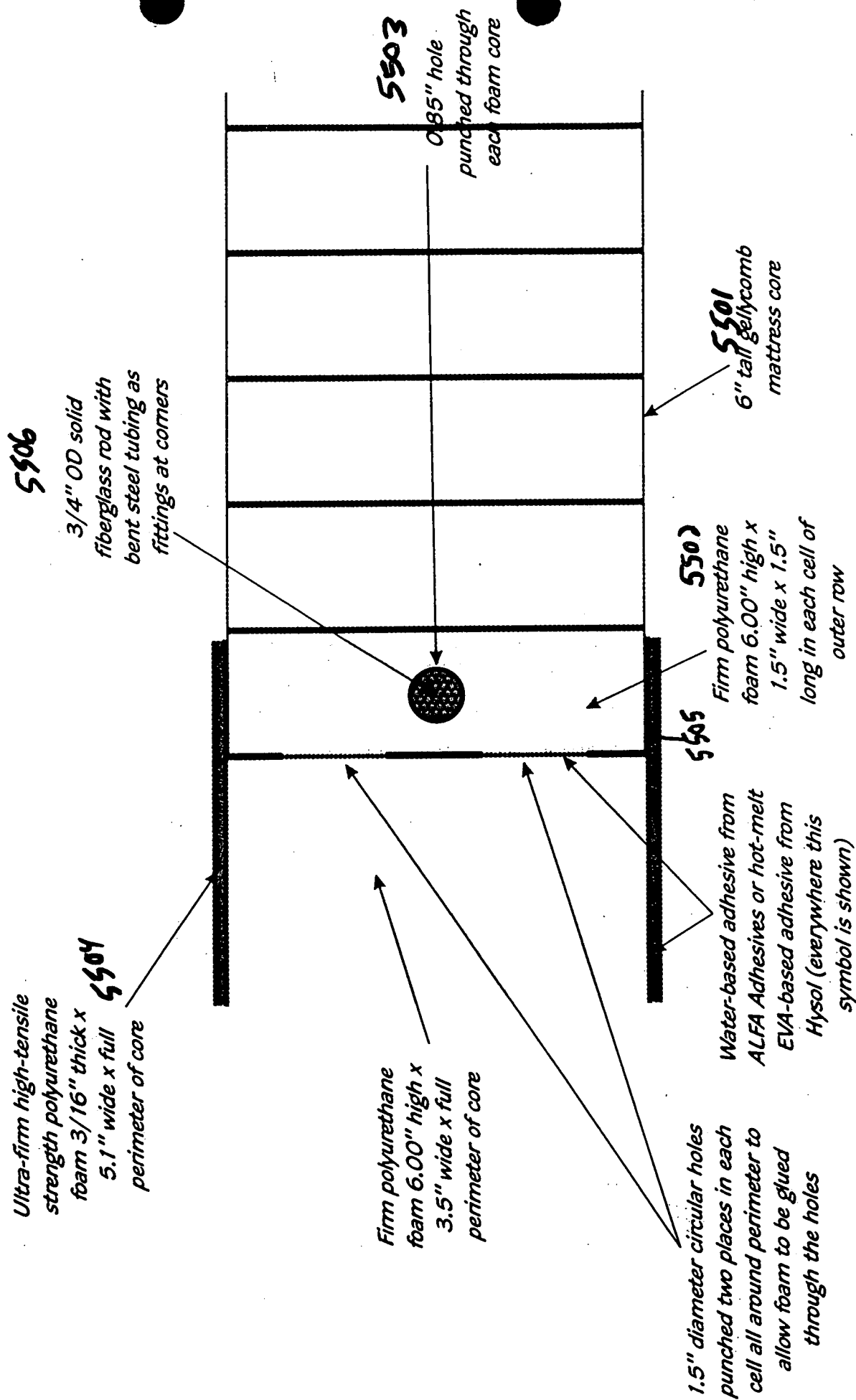
~~SECRET~~ 54

Figure ~~53~~ 54



622050" 62202260

Figure # 55

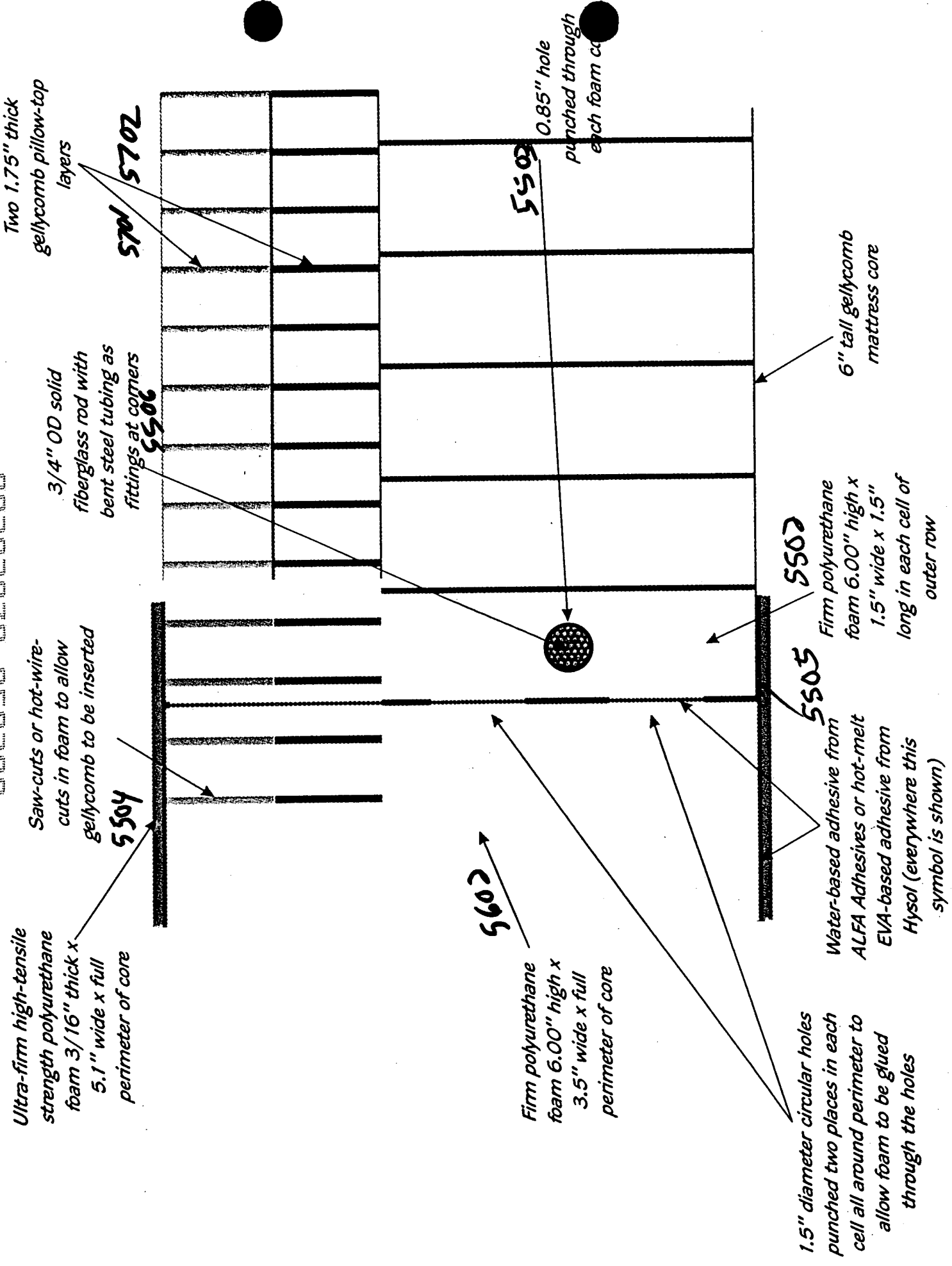


五五五



Figure 8 S7

662090-62620200



5800 **Figure 4**

3/4" OD solid fiberglass rod with bent steel tubing as fittings at corners

Gellycomb is beveled to one inch below the surface (top and bottom) all around the perimeter

5803

5802

5805

5804

5801

6" tall gellycomb mattress core

Water-based adhesive from ALFA Adhesives or hot-melt EVA-based adhesive from Hysol

Approx 3.5"

(varies by bed size to fill out the mattress to standard width/length)

1.65"

0.10"

Approx 5.25"

Firm polyurethane foam around entire perimeter of core

Saw-cut recess for the gellycomb perimeter wall

Saw-cut recesses for the gellycomb

Router-cut recess for the fiber-glass side support rod

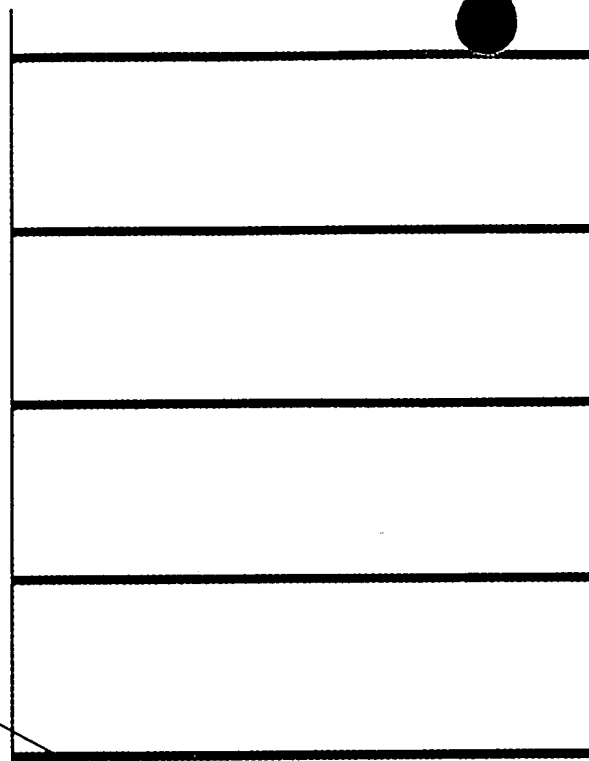
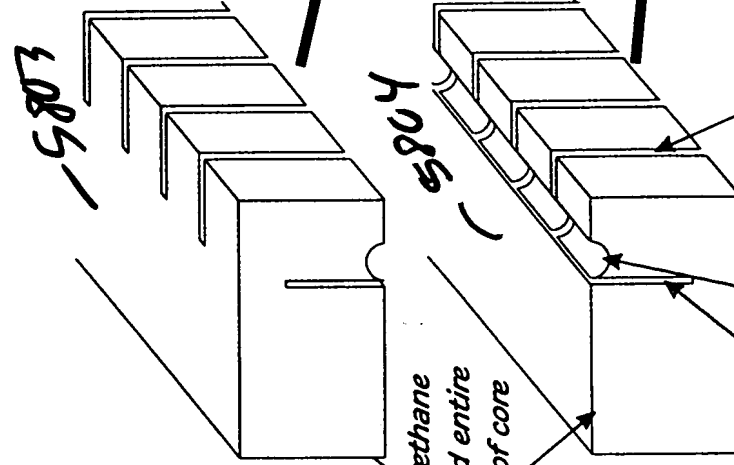


Figure 59

Ultra-firm high-tensile

strength polyurethane

foam 3/16" thick full

perimeter of core (or,

felt mat if it glues well;

or, urethane film)

Water-based adhesive from ALFA

Adhesives or hot-melt EVA-based

adhesive from Hysol

Saw-cut

recesses for the

gellycomb cell

side walls

5903

Firm polyurethane

foam around entire

perimeter of core

Saw-cut recess

for the gellycomb

perimeter wall

Router-cut recess

for the fiber-glass

side support rod

580Y

Saw-cut

recesses for

the

gellycomb

5805

Circular Blade
Saw Tail

Approx
3.5"

(varies by bed size to
fill out the mattress to
standard width/length)

Approx
1.65"

0.10"

Approx
5.25"

Gellycomb is beveled to

one inch below the

surface (top and bottom)

all around the perimeter

5901

1.75" thick gellycomb

Comfort Layer

5902

3/4" OD solid

fiberglass rod with

bent steel tubing as

fittings at corners

5901

6" tall gellycomb

mattress core

Side View
with Foam
Inserted

6001

Side View

Construction: Thin-gauge sheet metal, riveted

Figure 60

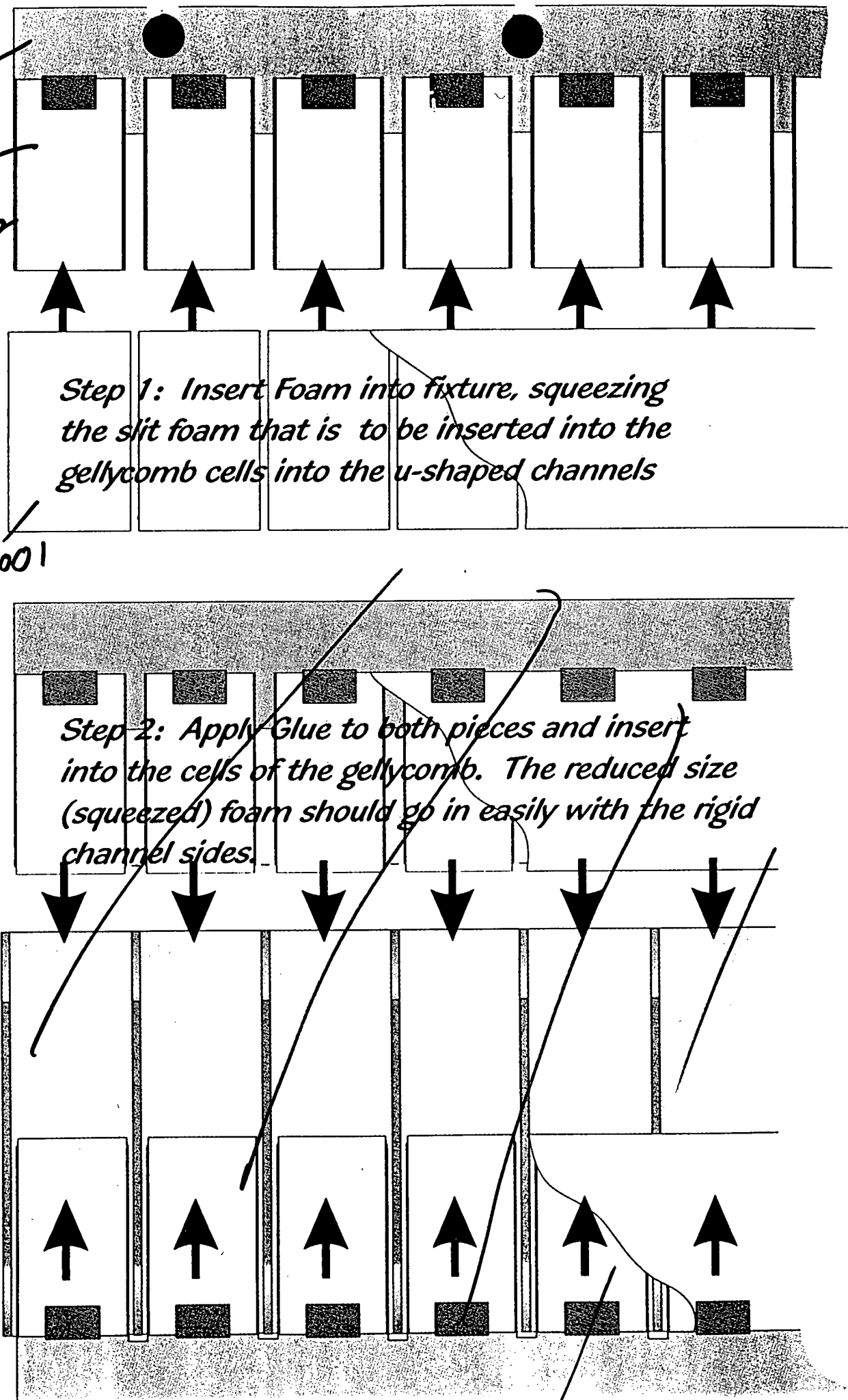
Front View

6000

~~1-17662~~

Side View of different top fixture if gellycomb is placed atop the Intelli-Gel

Figure 61



66E0300 66E0300
Figure 10 622

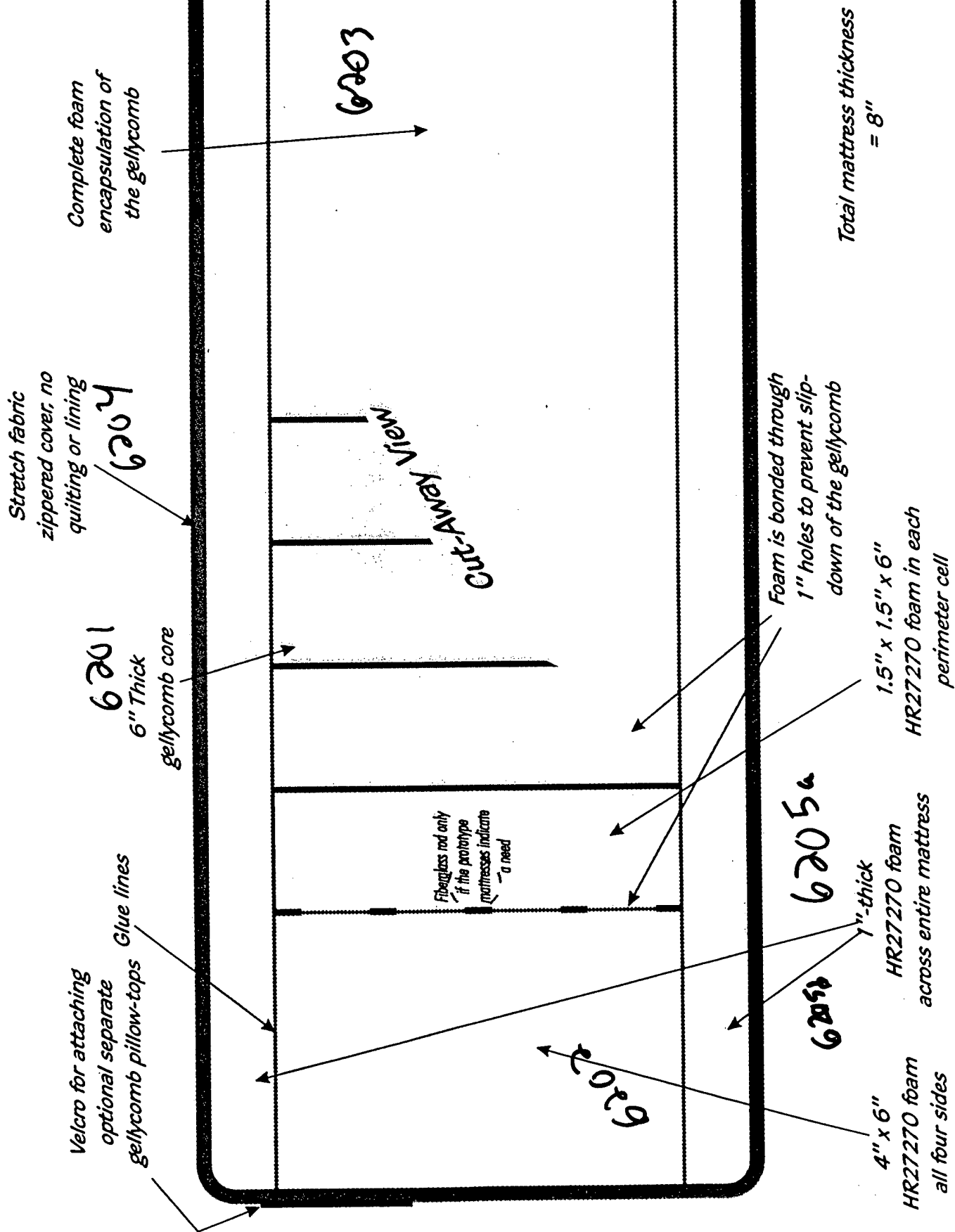


Figure # 63

66090" 626E0260

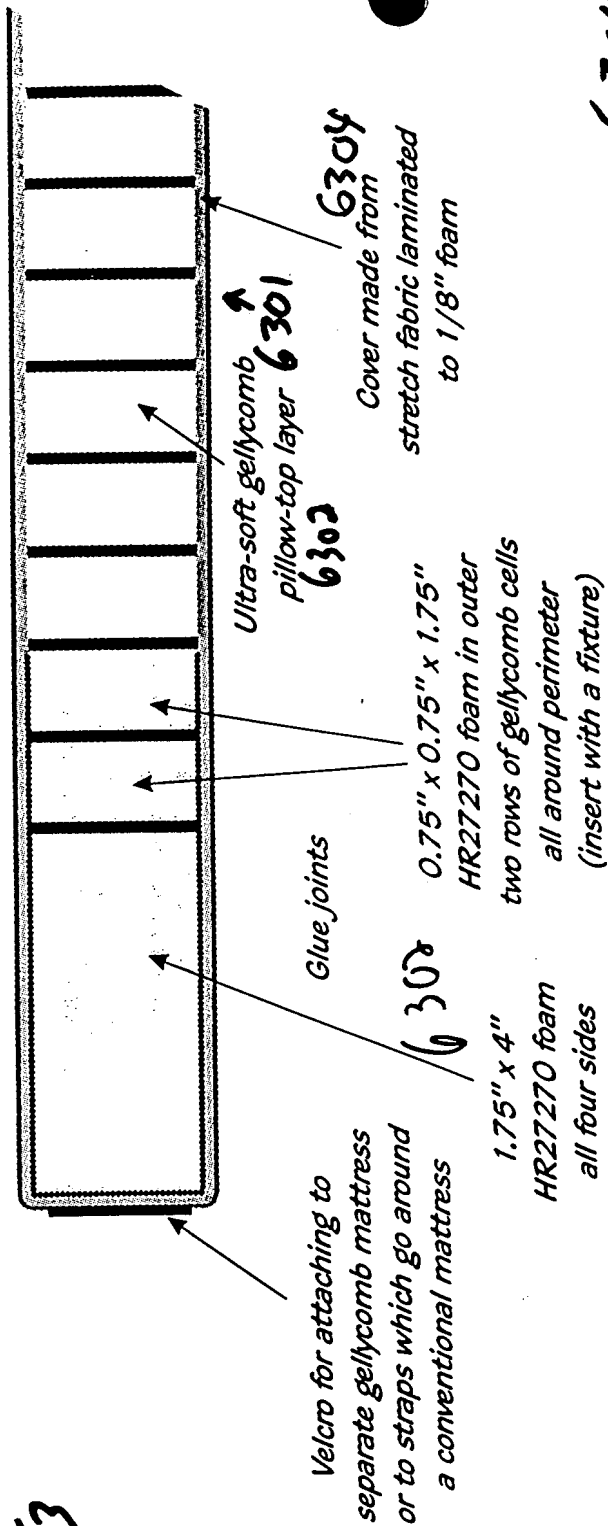


Figure # 64

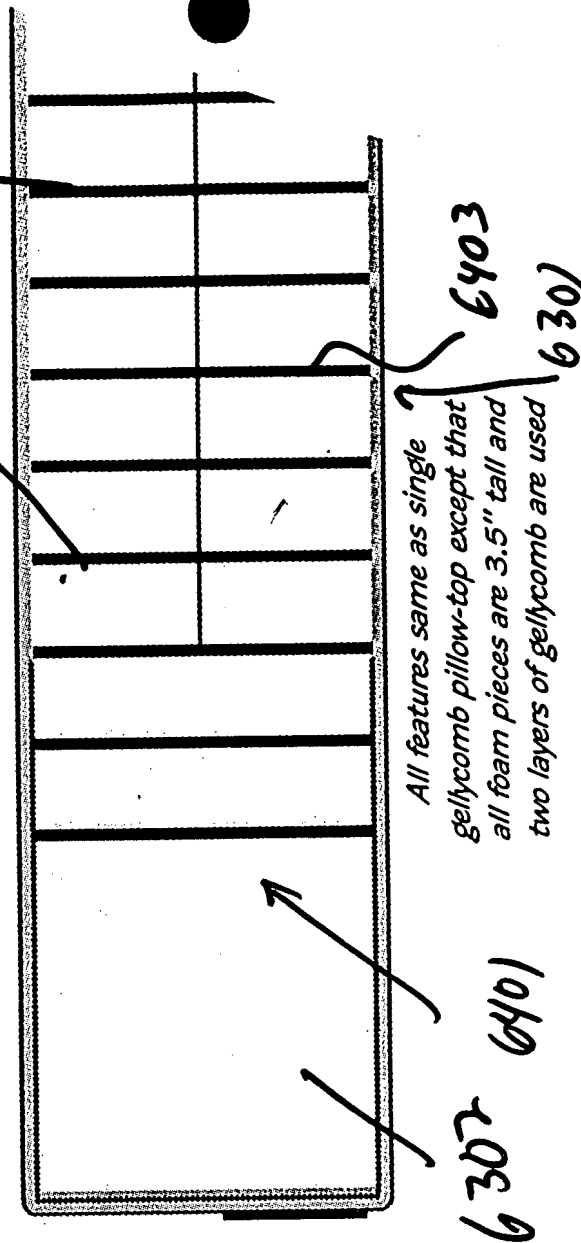
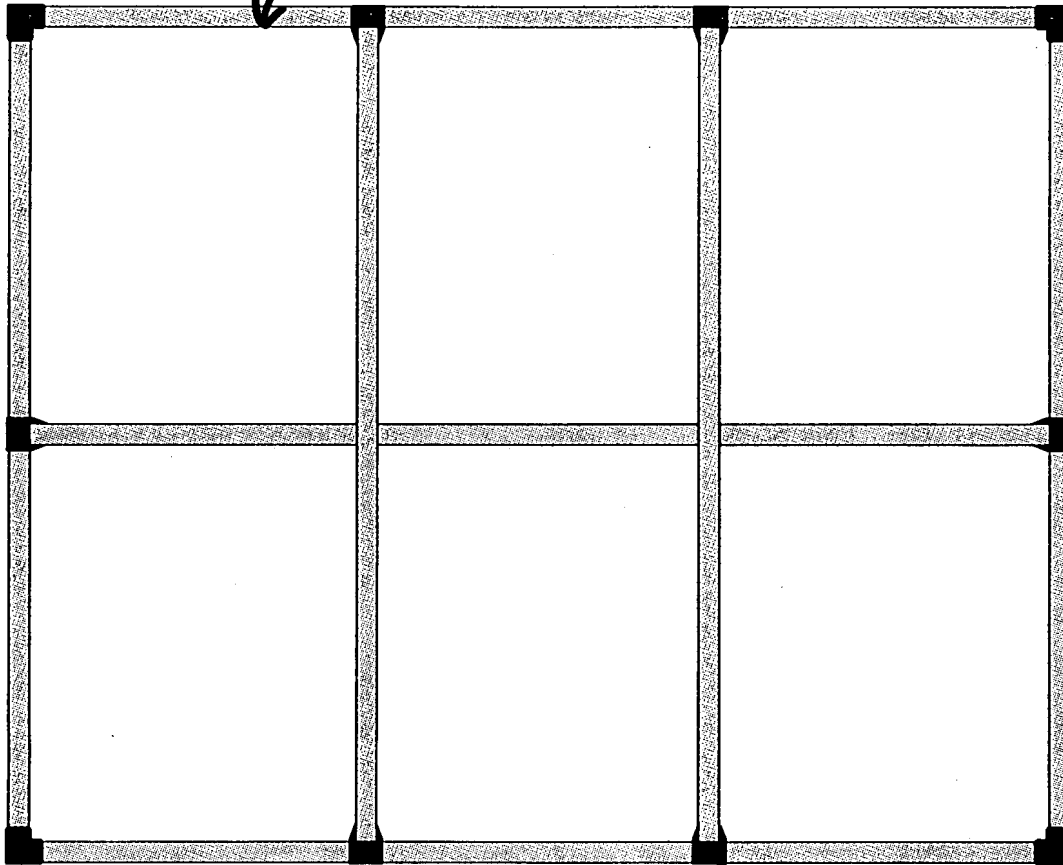


Figure 65



← 6501

Figure 66



↑ 6601

Figure 66

Figure 67a

662050" 62620E60

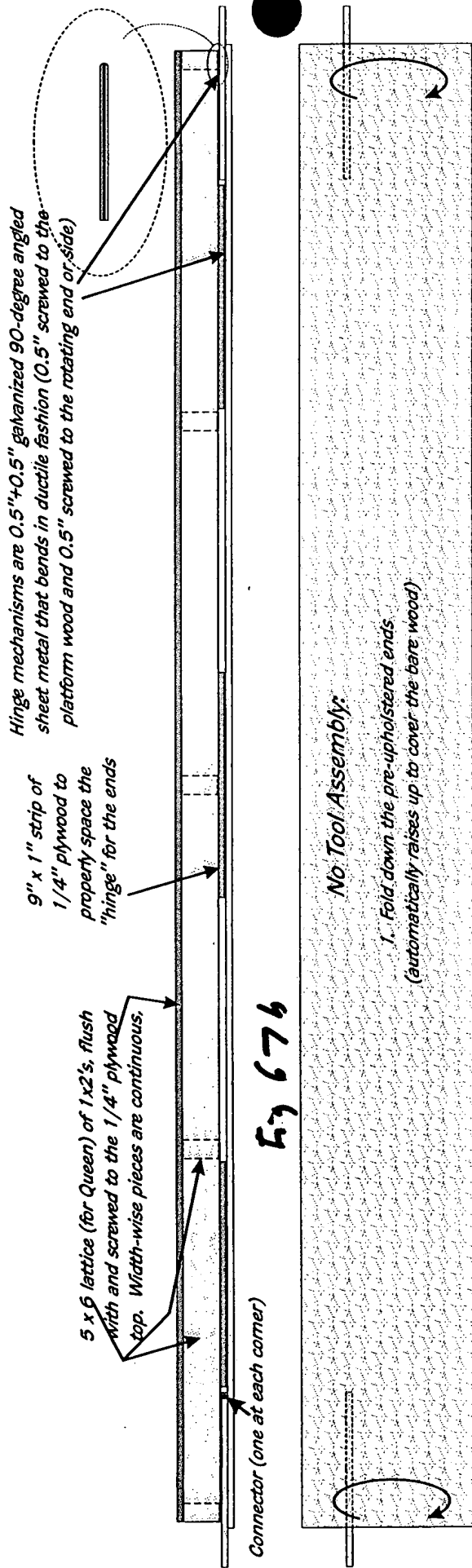


Fig 67c

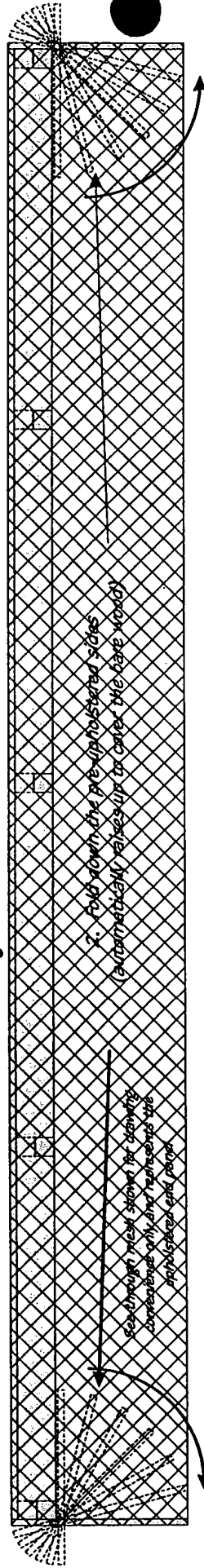


Fig. 67d

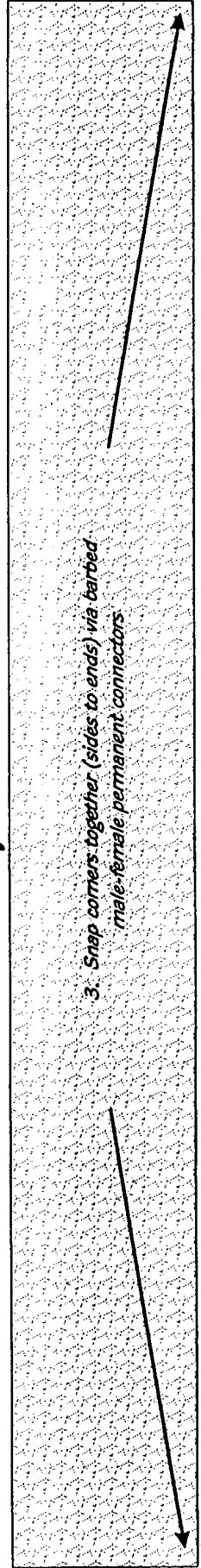


Figure 4
682050-6 AF 67e

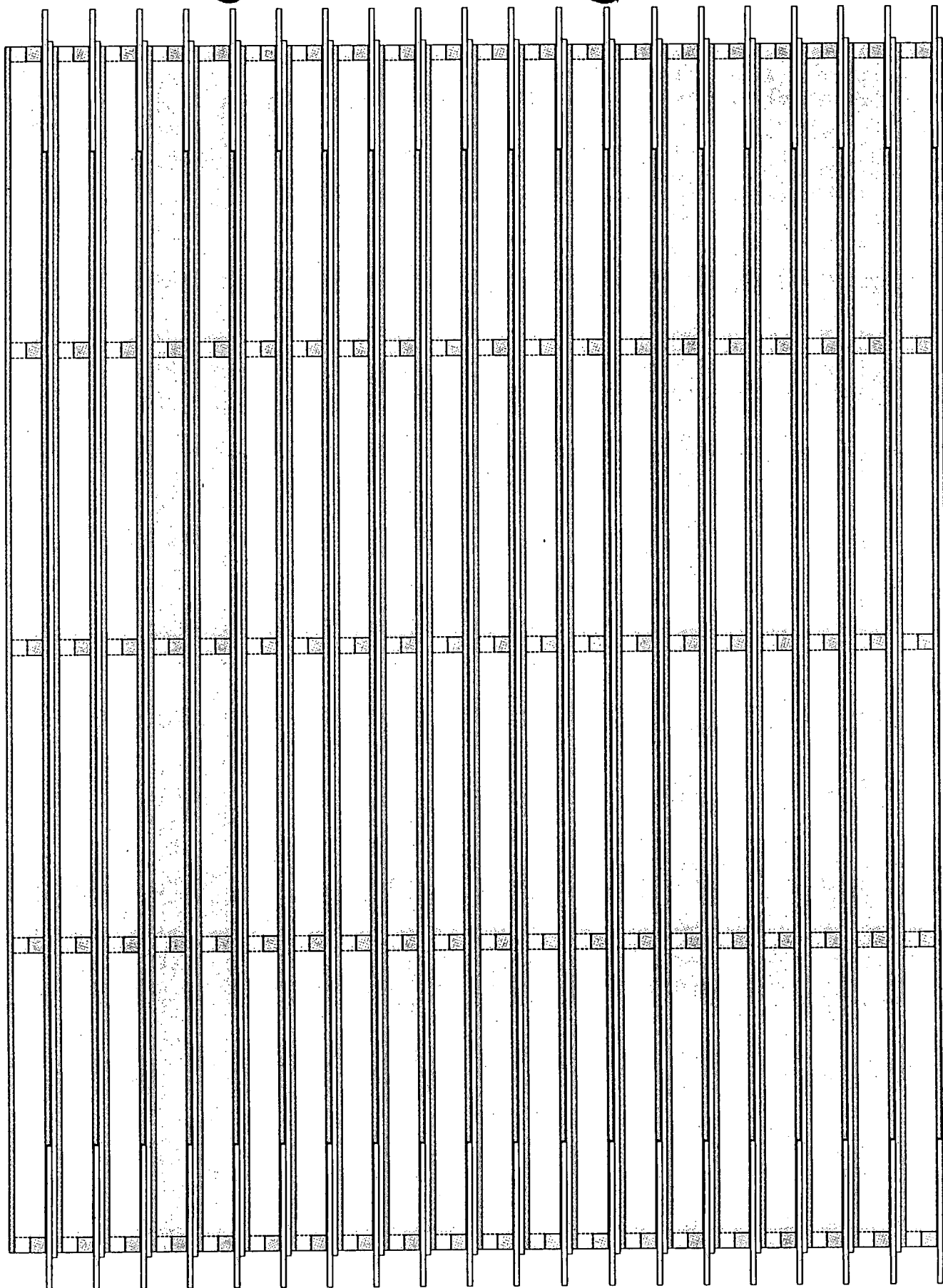
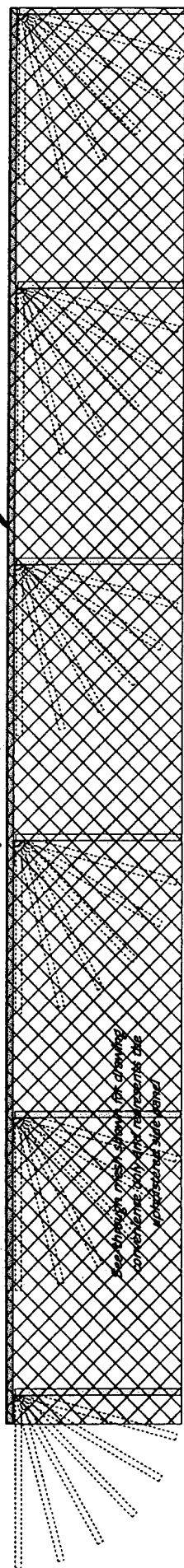


Figure # 619

66E050-626E0260



Fig. 686



See drawing 686 for details
of the structure of the
component shown

FIG. 69a

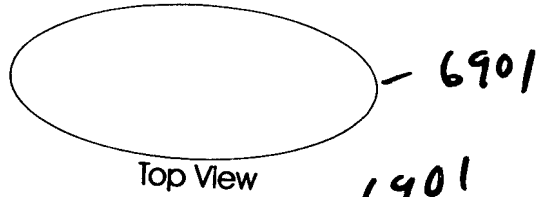
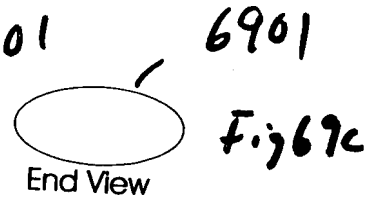
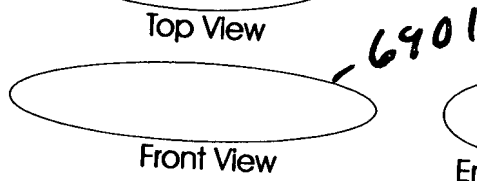


Fig 69b



000000-02000000

Figure 70

Quilted Top with Fiber

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

7001

7002

Figure 71

Quilted Top with Fiber

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

7101 7102 7103

Figure 72

Quilted Top with Fiber & Foam

6"-high hollow column gel elastomer with 1.8" square holes and 0.10" wall thickness

7002

7004

7003

7001

Figure 73

Quilted Top with Fiber

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

6"-high hollow column gel elastomer with 1.8" square holes and 0.10" wall thickness

7301

7302

7303

Figure ~~74~~ 7404

Quilted Top with Fiber

7402

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

6"-high hollow column gel elastomer with 1.8" square holes and 0.10" wall thickness

7403

Figure ~~75~~ 75

Quilted Top with Fiber

7503

7501

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

Polyurethane Foam

Figure ~~76~~ 76

Quilted Top with Fiber

7604

7602

7603

7602

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

Polyurethane Foam

7601

Figure ~~77~~ 77

Quilted Top with Fiber

7701

7702

7703

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

High-Grade Visco-Foam

Figure ~~78~~ 78

Quilted Top with Fiber

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

Spring Unit

Figure ~~79~~ 79

Quilted Top with Fiber

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

Spring Unit

Figure ~~80~~ 80

Quilted Top with Fiber & Foam

6"-high hollow column gel elastomer with 1.8" square holes and 0.10" wall thickness

Shallow Spring Unit

Figure ~~81~~ 81

Quilted Top with Fiber

2"-high hollow column gel elastomer with 1" square holes and 0.125" wall thickness

Latex Foam

Figure ~~82~~ 82

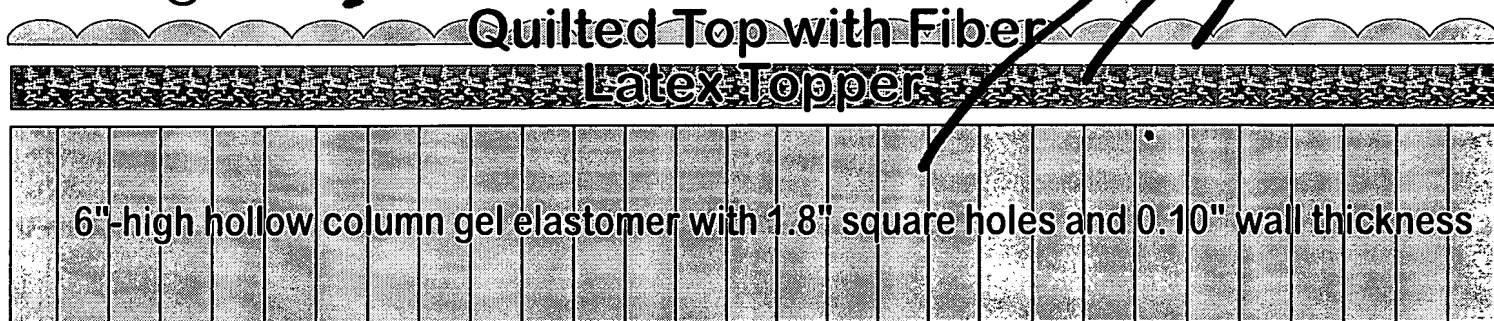


Figure ~~83~~ 83

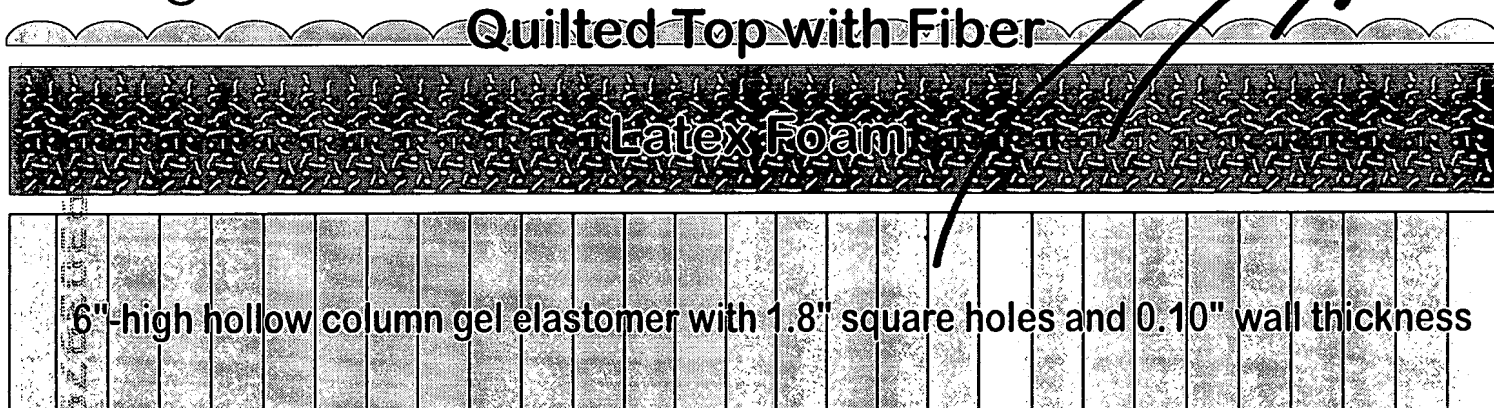


Figure ~~84~~ 84

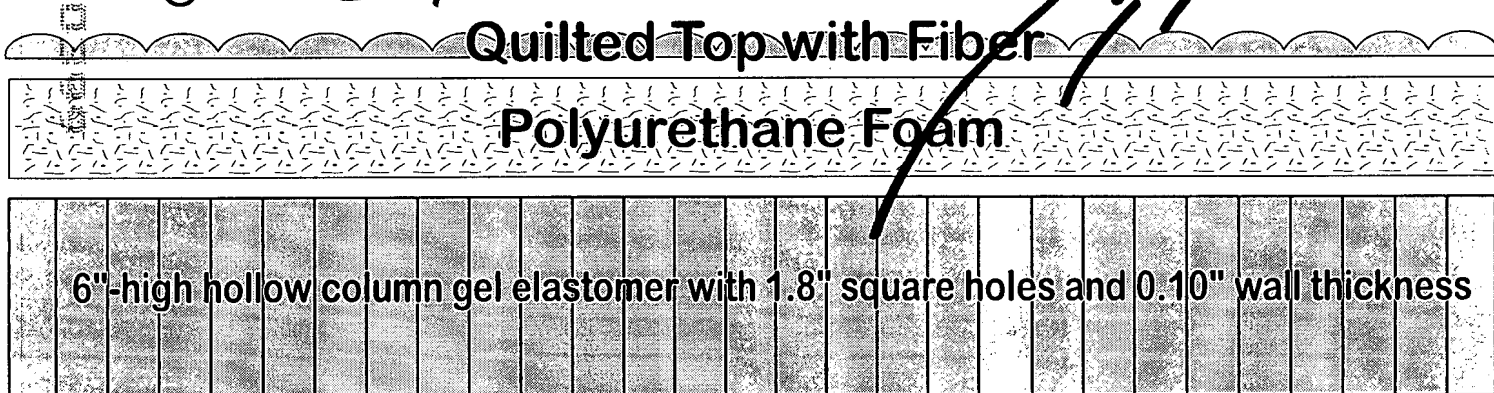
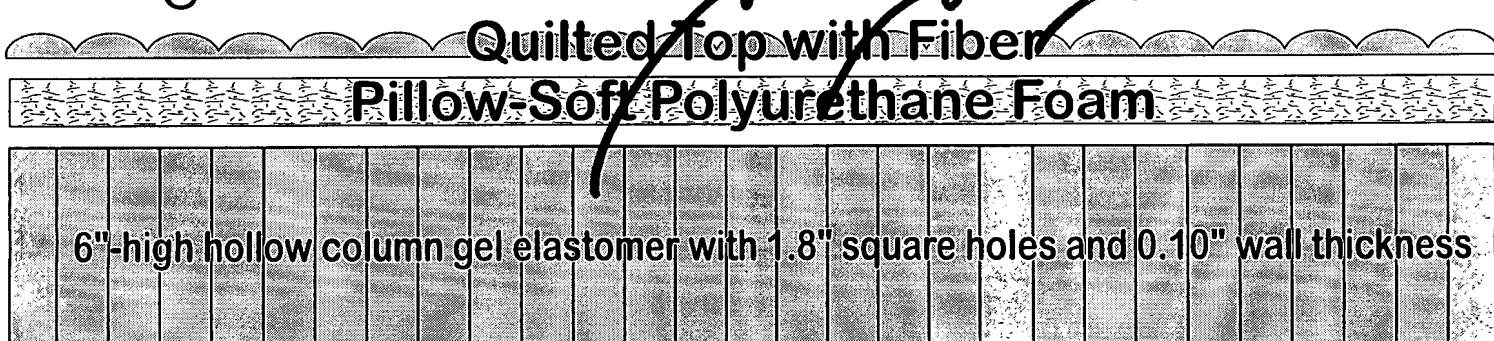
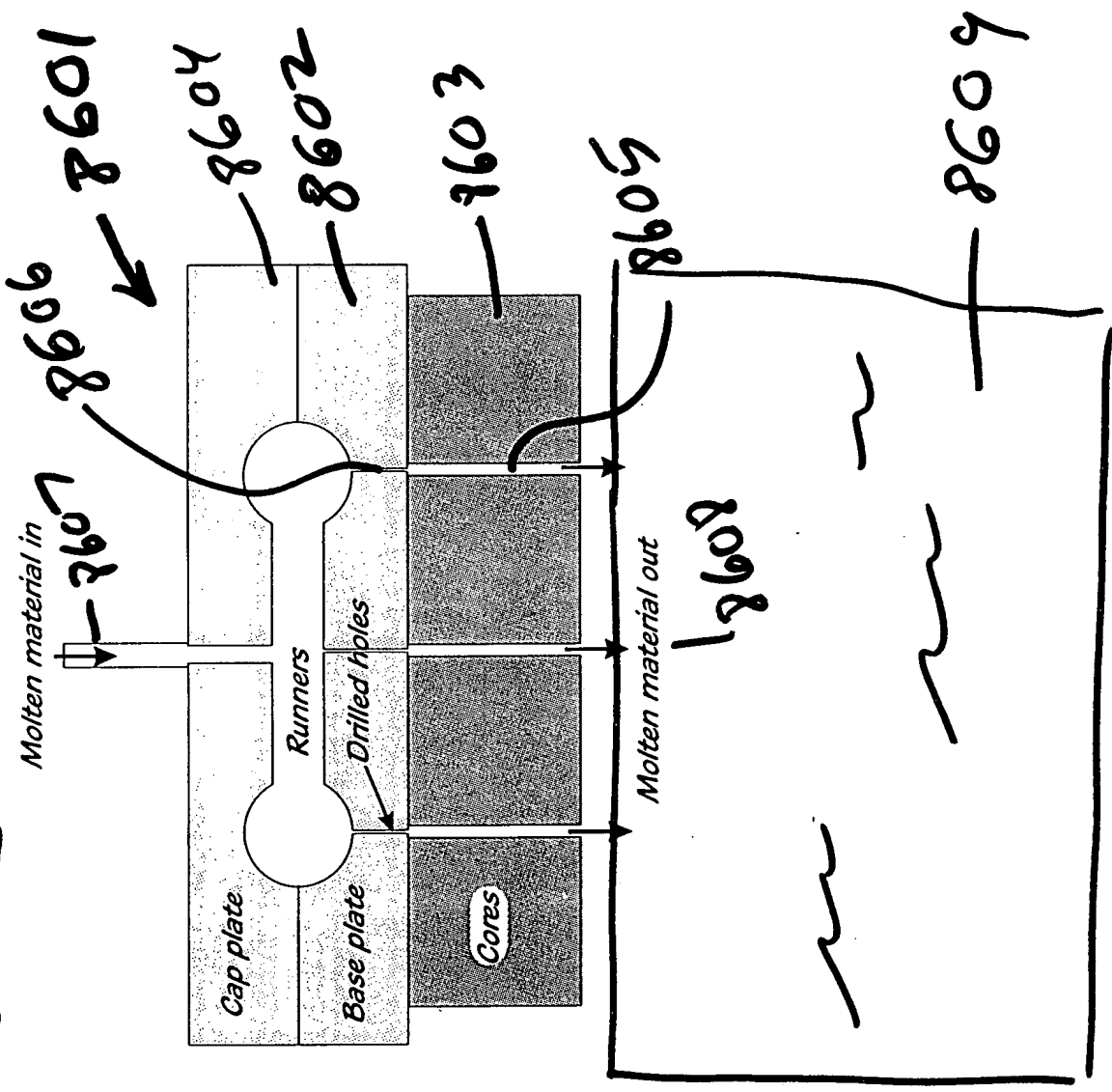


Figure ~~85~~ 85

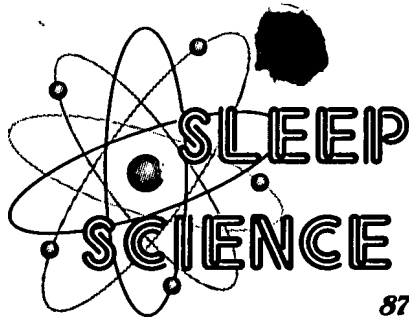


86

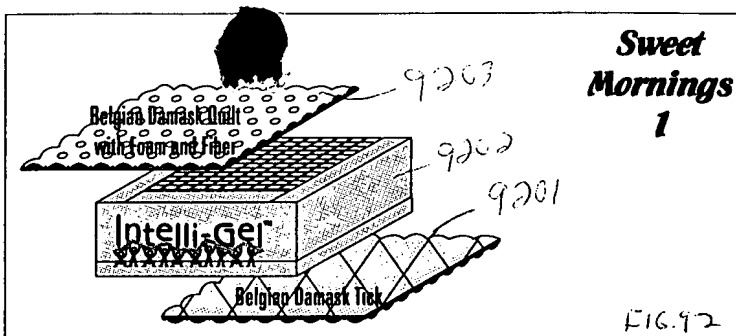
Figure 1



8610

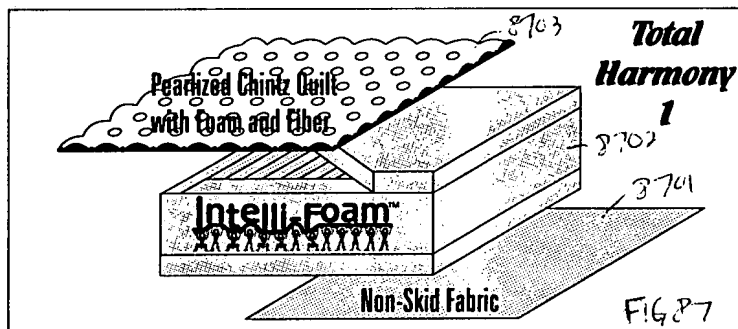


Toll Free
877-85-SLEEP



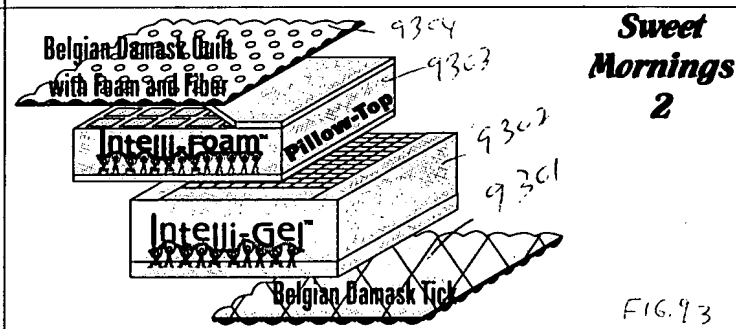
**Sweet
Mornings
1**

FIG. 92



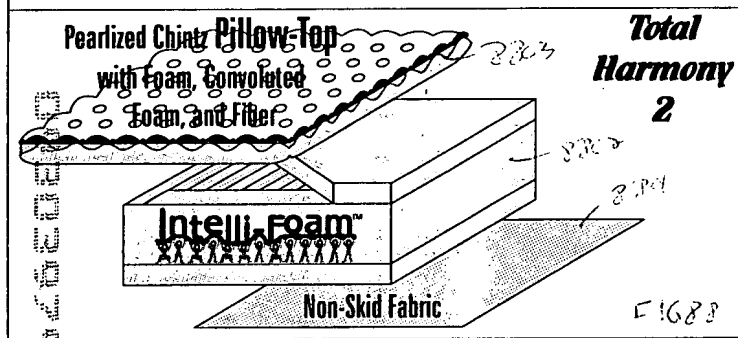
**Total
Harmony
1**

FIG. 87



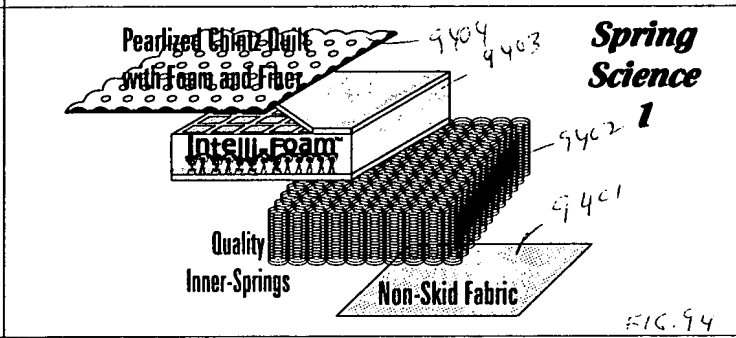
**Sweet
Mornings
2**

FIG. 93



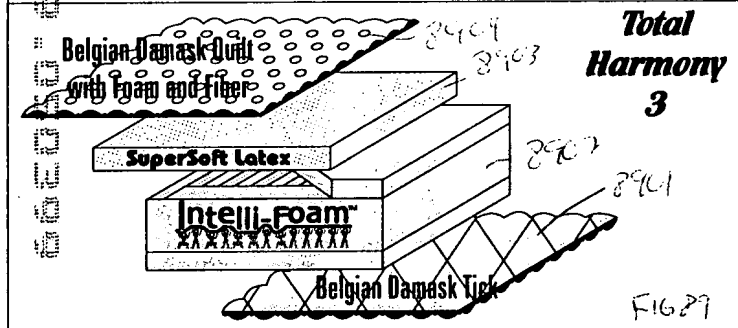
**Total
Harmony
2**

FIG. 88



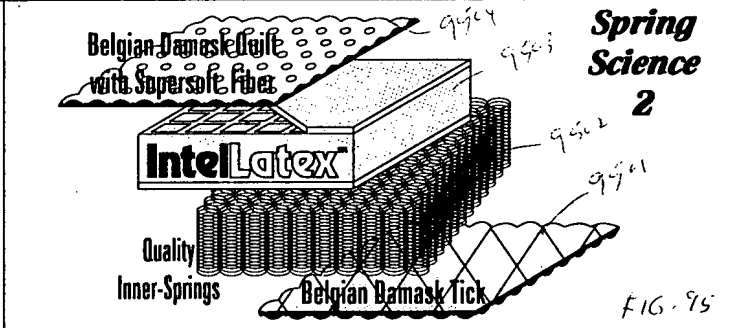
**Spring
Science
1**

FIG. 94



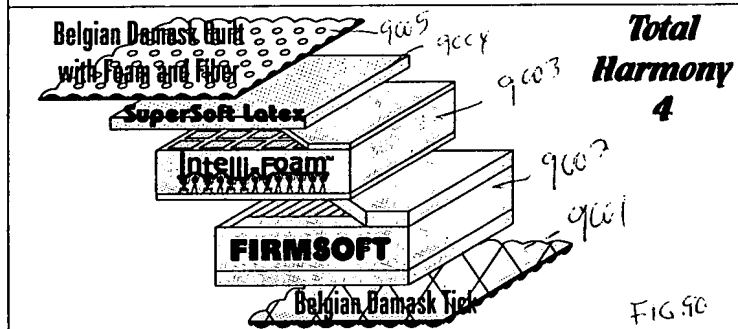
**Total
Harmony
3**

FIG. 89



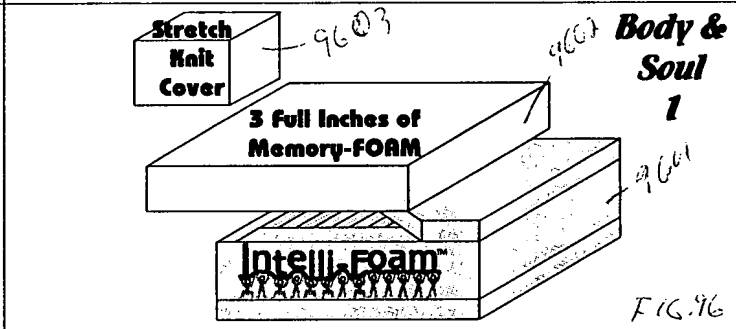
**Spring
Science
2**

FIG. 95



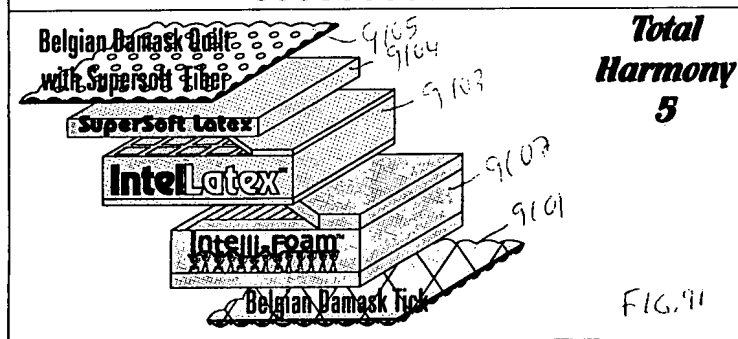
**Total
Harmony
4**

FIG. 90



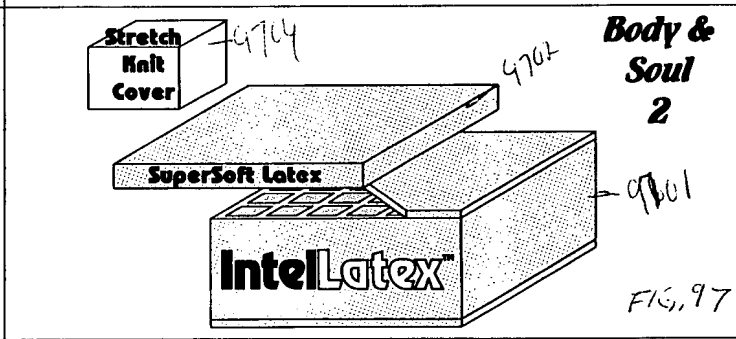
**Body &
Soul
1**

FIG. 96



**Total
Harmony
5**

FIG. 91



**Body &
Soul
2**

FIG. 97